

NAVAL POSTGRADUATE SCHOOL MONTEREY, CALIFORNIA



THESIS

RESTRUCTURING THE BUDGET FOR THE FLEET MODERNIZATION PROGRAM (FMP)

by

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June 1996

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RESTRUCTURING THE BUDGET FOR THE FLEET MODERNIZATION PROGRAM (FMP)

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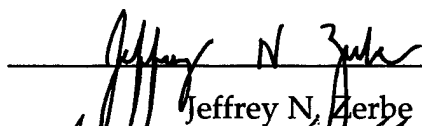
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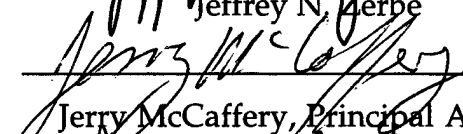
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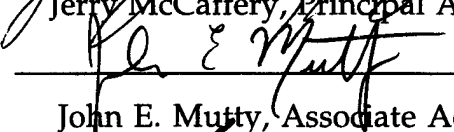
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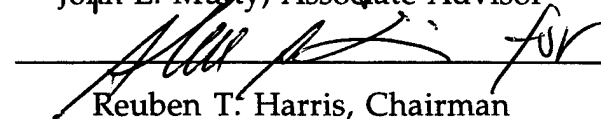
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ABSTRACT

The Fleet Modernization Program (FMP) provides a systematic structure for planning, programming, budgeting, and installing improvements to ships of the active and reserve fleets. The procedures for budgeting and executing the FMP are governed by the rules of the current FMP Fiscal Appropriation. Since Fiscal Year (FY) 1989, a series of FMP appropriation decisions has resulted in each budget year program being budgeted and executed differently. These decisions have directly affected fleet modernization efforts and have increased the complexity of the FMP, a program which is well known for its fragmented infrastructure and misunderstood procedures. This thesis analyzes the budget structure of the FMP and evaluates the impact of changes in the budget structure since FY 1989, primarily as they relate to program execution. The research compares and contrasts funding and procedural differences between the FMP and the TRIDENT modernization program. The final results of this analysis are specific recommendations on how to restructure the FMP budget to improve program execution. Additionally, this research serves as a historical record of the FMP budget structure changes since FY 1989.

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LIST OF SYMBOLS, ACRONYMS, AND/OR ABBREVIATIONS

ADP	Automated Data Processing
AIT	Alteration Installation Team
APN	Aircraft Procurement, Navy
BTR	Below Threshold Reprogramming
CBO	Congressional Budget Office
CCB	Change Control Board
CINC	Commander-in-Chief
CNO	Chief of Naval Operations
DIRSSP	Director, Strategic Systems Programs
DoD	Department of Defense
DoN	Department of the Navy
DSA	Design Services Allocation
EMP	Execution Management Plan
ESC	Executive Steering Committee
EV	Earned Variance
FBM	Fleet Ballistic Missile
FMP	Fleet Modernization Program
FMPMIS	Fleet Modernization Program Management Information System
FY	Fiscal Year
FYDP	Future Year Defense Plan
HCPM	Headquarters Centrally Provided Material
HM&E	Hull, Mechanical, and Electrical
HSC	Hardware Systems Command
ILS	Integrated Logistics Support
IR ³ B	Integrated Resource and Requirements Review Board

JCF	Justification Cost Form
JMA	Joint Mission Area
LCEM	Life Cycle Equipment Manager
MACHALT	Machinery Alteration
MOA	Memorandum of Agreement
N43	Director, Supportability, Maintenance, and Modernization Division
N6	Director, Space and Electronic Warfare
N8	Deputy Chief of Naval Operations (Resources, Warfare Requirements, and Assessments)
N82	Director, Fiscal Management Division
N85	Director, Expeditionary Warfare Division
N86	Director, Surface Warfare Division
N87	Director, Undersea Warfare Division
N88	Director, Air Warfare Division
NARSOC	Navy Acquisition Reform Senior Oversight Council
NAVAIR	Naval Air Systems Command
NAVCOMPT	Comptroller of the Navy
NAVSEA	Naval Sea Systems Command
NSY	Naval Shipyard
O&MN	Operations and Maintenance, Navy
OPN	Other Procurement, Navy
OPNAV	Office of the Chief of Naval Operations
ORDALT	Ordinance Alteration
OSD	Office of the Secretary of Defense
PARM	Participating Manager
PBD	Program Budget Decision
PEO	Program Executive Officer
POM	Program Objectives Memorandum

PPBS	Planning, Programming, and Budgeting System
PR	Program Review
SA	Support Area
SABRES	Ship Alteration Budgeting, Reporting, Evaluation System
SAC	Strategic Air Command
SAFE	Ship Alteration Financial Execution System
SAM	Ship Alteration Manager
SAR	Ship Alteration Record
SCIP	Ships Characteristic Improvement Panel
SECDEF	Secretary of Defense
SECNAV	Secretary of the Navy
SHIPALT	Ship Alteration
SID	SHIPALT Installation Drawing
SPAWAR	Space and Naval Warfare Command
SPM	Ship's Program Manager
SPP	Sponsor Program Proposal
STARS	Standard Accounting and Reporting System
SUBLANT	Naval Submarine Forces, U.S. Atlantic Fleet
SUBPAC	Naval Submarine Forces, U.S. Pacific Fleet
TOA	Total Obligational Authority
TRF	Trident Refit Facility
TRID	Trident Ship Alteration
TYCOM	Type Commander
WPN	Weapons Procurement, Navy

I. INTRODUCTION

A. AREA OF RESEARCH

Since Fiscal Year (FY) 1989, a series of Fleet Modernization Program (FMP) appropriation decisions has resulted in each budget year program being budgeted and executed differently. These decisions have directly affected fleet modernization efforts and have increased the complexity of the FMP, a program which is well known for its fragmented infrastructure and misunderstood procedures. This thesis analyzes the budget structure of the FMP and evaluates the impact of program changes in the budget structure since FY 1989, primarily in program execution. The research compares and contrasts funding differences between the FMP and the TRIDENT modernization program. The final results of this analysis are specific recommendations on how to restructure the FMP budget to improve program execution.

B. RESEARCH QUESTIONS

1. Primary Research Question

- What would be the benefits of restructuring the FMP budget structure?

2. Secondary Research Questions

- What is the FMP?
- What factors led to the recent series of changes to the FMP budget structure?
- In what ways have the changes in the FMP budget structure since FY 1990 affected program execution?
- What factors are continuing to cause FMP execution problems?
- What are the strengths and weaknesses of the current FMP budget structure?
 - How does the TRIDENT modernization program differ from the FMP and why?
 - What are the strengths and weaknesses of the TRIDENT modernization program?
- What are the costs and benefits associated with restructuring the FMP budget structure?

C. DISCUSSION

The FMP provides a systematic structure for planning, programming, budgeting, and installing improvements to ships of the active and reserve fleets. The procedures for budgeting and executing the FMP are governed by the rules of the current FMP Fiscal Appropriation.

Despite its complexity, the FMP is an essential part of the Navy's modernization plan based on the strategic vision outlined in *...From the Sea* and more recently in *Forward...From the Sea*, and the results of the Bottom Up Review conducted by the Department of Defense (DoD). In the post Cold War era of markedly reduced defense procurement spending, modernization of existing assets is a critical element of our defense posture. Although the

FMP comprises only a fraction of our total defense budget, this small investment significantly contributes to our ability to meet the "threat."

As a result of its importance to the Navy's modernization efforts, the FMP has been the focus of several recent studies. A FMP Visionary Working Group was formed to identify root problems and recommend solutions, and the FMP was recently nominated by the Navy for cycle time reduction. Many of the concerns throughout the fleet can be summarized by the statement, "it seems that the budget process has overtaken the modernization process and has become more important than the ships and the Sailors." (Ennis et. al., 1995, p. 4-11)

To fully understand the complexities of the FMP, it is important to compare and contrast the differences between the FMP and another highly successful modernization program with a completely different budget structure. This program is the TRIDENT modernization program. Although the purpose of the TRIDENT modernization program is the same as that of the FMP, its budget structure is quite different. An understanding of the strengths and weaknesses of each budget structure is necessary prior to making constructive recommendations on how to restructure the FMP budget to improve program execution.

D. SCOPE OF THESIS

The research will concentrate on the FMP from the perspectives of the Director, Fiscal Management Division (N82), Director, Surface Warfare Division (N86), Director, Undersea Warfare Division (N87), and Naval Sea Systems Command (NAVSEA).

E. METHODOLOGY

- Interviews were conducted with key personnel involved in the FMP and TRIDENT System within N82, N86, N87, and NAVSEA. The interviews concentrated on determining the strengths and weaknesses of the current FMP budget structure and recommendations for change.
- Data was collected from the Fleet Modernization Program Management Information System (FMPMIS), the Ship Alteration Budgeting, Reporting, Evaluation System (SABRES), and the Ship Alteration Financial Execution System (SAFE).
- Conclusions and recommendations from completed FMP studies and data from ongoing FMP studies were compiled.
- Current financial structure draft proposals to reduce FMP cycle time were addressed.

F. CHAPTER OUTLINE AND DISCUSSION

- 1. Chapter I - Introduction**
- 2. Chapter II - Management Control: Line-Item Versus Lump-Sum**

Chapter II establishes the overall framework for addressing the primary research question. It analyzes the use of line-item and lump-sum appropriations throughout the nation's history and concludes with a brief discussion of congressional micromanagement of the defense budget.

3. Chapter III - Overview of the FMP

Chapter III presents an objective overview of the FMP. Chapter III attempts to simplify this complex program into an understandable interrelated system in preparation for addressing the changes to the FMP since FY 1989 and discussing the strengths and weaknesses of the current FMP budget structure.

4. Chapter IV - Background and Analysis of Changes to the FMP Since FY 1989

Chapter IV builds on the framework established in Chapter II and Chapter III by taking a hard look at the myriad of FMP budget structure changes since FY 1989. Extensive use of Congressional Record citations and dialogue serves to accurately record both when and why the changes were made and the consequences of these decisions.

5. Chapter V - Strengths and Weaknesses of the FMP and TRIDENT Modernization Program

Chapter V first presents an overview of TRIDENT modernization program. This overview serves as the basis for discussing the current strengths and weaknesses of each system.

6. Chapter VI - Current Proposals to Reduce FMP Cycle Time

Chapter VI presents and evaluates the FMP Cycle Time Reduction Working Group Financial Structure Draft Proposals. Although only draft proposals, these initiatives help to illustrate what current efforts are being taken within the Department of the Navy (DoN) to restructure the FMP budget structure.

7. Chapter VII - Conclusions and Recommendations

G. BENEFITS OF STUDY

Although several recent studies and working groups have focused on the FMP, many of these efforts have been from an "inside" perspective and have concentrated on specific components of the FMP, such as Automated Data Processing (ADP) systems, and not on program execution. Compiling the results of these studies and systematically evaluating the strengths and weaknesses of the current FMP budget structure from an "outside" perspective will establish the framework for providing unbiased recommendations for FMP execution improvement. Additionally, this research serves as a historical record of the FMP budget structure changes since FY 1989.

II. MANAGEMENT CONTROL: LINE-ITEM VERSUS LUMP-SUM

In establishing the framework for addressing the primary research question, it is important to first analyze the different types of appropriations which have been used throughout the nation's history. Careful analysis of these appropriations will provide valuable insight into the factors which led to the FMP budget structure changes over the past several years. Although the FMP was primarily lump-sum funded prior to FY 1990, distrust of the executive's ability to effectively manage the installation of modernization equipment resulted in a movement toward line-item appropriation control of the FMP beginning in FY 1990.

A. LINE-ITEM VERSUS LUMP-SUM APPROPRIATIONS

1. Background

Since colonial times, and despite numerous congressional efforts to reform the budgetary system, tension still exists between the executive branch and Congress with respect to how much flexibility should be given to agencies to execute public programs funded by Congress. This tension, which clearly exists with control of the military purse, has focused primarily on the nature of the appropriations Congress passes, "...i.e., broad general appropriations for multipurposes called lump-sum appropriations versus specific appropriations for direct purposes called line-item appropriations." (Pitsvada, 1983, p. 83) Fisher puts the entire argument into perspective by stating "the choice between lump-sum and line-item appropriations has been debated in America for at least the last two centuries." (Fisher, 1975, p. 59)

The United States' Constitution establishes the framework for control of spending. The Constitution states, "no Money shall be drawn from the Treasury, but in the Consequence of Appropriations made by Law" and adds a warning that "except as otherwise provided by law, sums appropriated for the various branches of expenditure in the public service shall be applied solely to the objects for which they are respectively made, and for no others." (Huzar, 1950, p. 319)

Although this framework calls for Congress to appropriate funds, the executive branch has traditionally enjoyed considerable discretion as to how those funds are spent. Fisher states, "administrative discretion over the expenditure of public funds has been a fact of life since the first Administration...." (Fisher, 1972, p. 110)

Sharp partisan clashes over appropriation controls date back to the early years of national government. It is widely believed that the Federalists and the Jeffersonian Republicans differed greatly over line-item and lump-sum appropriations. The Federalists are generally viewed as advocates of lump-sum appropriations and executive spending discretion and the Jeffersonian Republicans as proponents of line-item and legislative control. Fisher concludes however, that the facts do not support such a clear cut division between the two camps. (Fisher, 1972, p. 110)

Fisher explains that the first appropriation act of 1789 provided lump sums to four general classes of expenditures. The appropriation acts for 1790 and 1791 also provided lump sums but with the provision that the funds were to be spent in accordance with estimates provided to Congress by the Secretary of the Treasury. In the appropriation act of December 23, 1791, Congress used a "that is to say" clause to further narrow executive discretion. In this appropriation act, "...a little over a half million was appropriated for the military establishment - 'that is to say,' \$102,686 for pay of troops, \$48,000 for clothing, \$4,152 for forage, and so forth." (Fisher, 1972, p. 111) Fisher points out that this trend continued,

and that by 1793, appropriation acts "...were descending to such minutiae as an item of \$450 for firewood, stationary, printing, and other contingencies in the Treasurer's office." (Fisher, 1972, p. 111) From the latter examples, clearly long before the Jeffersonians had gained control of the Presidency, the practice of granting lump sums had been largely abandoned.

After his election as President in 1801, Jefferson told Congress that it would be prudent to appropriate "specific sums to every specific purpose susceptible of definition." (Fisher, 1972, p. 111) Hamilton took quick offense to this remark labeling it as "preposterous." Hamilton, being a Federalist, regarded Jefferson's remarks as an indirect criticism of Federalist financial policies. Fisher concludes that Jefferson was in error on two counts, "...first for implying that lump-sum appropriations had been the practice in the past, and second for suggesting that sums should be appropriated for every purpose susceptible of definition." (Fisher, 1972, p. 111)

Jefferson's Secretary of the Treasury, Albert Gallatin, recognized that it was impossible for Congress to foresee all the detailed fiscal requirements and believed that a reasonable amount of discretion should be given to the executive department. For example, "instead of \$1,857,242 being appropriated for the War Department, Gallatin had simply wanted such a sum broken down into smaller categories - \$488,076 for officers' pay and subsistence, \$400,000 for ammunition and arms, \$141,530 for clothing, and so forth." (Fisher, 1972, pp. 111-112) Fisher points out that there was nothing at all novel about Gallatin's suggestion; appropriation acts had been passed with that level of detail since December 23, 1791. Fisher emphasizes that "Jefferson himself, as President, recognized that 'too minute a specification has its evil as well as a too general one,' and thought it better for Congress to appropriate in gross while trusting in executive discretion." (Fisher, 1972, p. 112) Additionally, Gallatin, in an 1802 report to Congress, "... cautioned against excessive subdivision of the appropriations,

especially in the case of the War and Navy Departments, 'beyond what is substantially useful and necessary.'" (Fisher, 1975, p. 61)

2. Line-Item Appropriations

Schick argues that "budgeting in the United States is hamstrung by traditions developed in its infancy." (Schick, 1964, p. 100) Schick points out that in the early years of budgeting, emphasis was placed on ensuring complete and accurate accounting of expenditures and on preventing administrative abuses. For these reasons, Schick concludes line-item budgeting gained widespread acceptance.

In carrying out their constitutional responsibilities, Congress has historically preferred line-item appropriations since they typically specify "...the purpose, timing, and location of expenditures and allow Congress to monitor the spending patterns of departments and agencies within the executive branch." (Bixler et. al., 1992, p. 47) A good example of this preference is the fact that Congress requires the DoD to submit its budget largely in line-item detail. This high level of detail is especially apparent in the research and development and procurement areas of the military where defense budget requests include a myriad of required program exhibits showing the item, quantity of purchase, and proposed cost on a line-item basis. Jones emphasizes that "with this level of detail, subcommittee members and staff can attempt to surgically manipulate the DoD budget request to satisfy national security needs as well as the various constituent interests represented effectively by lobbyists in the highly decentralized congressional decision process." (Jones, 1991, p. 22)

Many defense advocates are critical of line-item appropriations because of the level of detail that is required to put a budget submission together and the amount of congressional oversight in budget execution as a result of this detail.

Thompson points out that Jacques Gansler denies that "...detailed line-item appropriations serve any legitimate purpose whatsoever." (Thompson, 1991, p. 62) Jones further adds that the problem with Gansler's approach to defense appropriations is that "...item-by-item budget approval is deeply rooted in the American constitutional order. It did not happen by accident or mistake." (Jones, et. al., 1994, p. 231)

3. Lump-Sum Appropriations

Instead of the detailed control provided by line-item appropriations, the President has traditionally preferred lump-sum appropriations that promote executive discretion and more flexibility in budget execution. Lump-sum appropriations also limit Congress' ability to control funds allocated to the executive branch or determine whether funds have been spent in compliance with congressional spirit and intent. (Bixler et. al., 1992, p. 47)

Lump-sum appropriations have frequently been used in times of war and national depression, "...when the crisis is great, the requirements uncertain, and the conditions ripe for large delegations of legislative power." (Fisher, 1975, p. 61) During World War II, some of the lump-sum appropriations were created by the omission of previous detailed breakdowns within the appropriations and others were established by "horizontal mergers" or consolidation of related, but previously separate appropriation titles. Huzar summarizes the use of lump-sum appropriations during times of war by stating, "in view of its traditional jealousy of the purse strings, the willingness of Congress to appropriate these tremendous lump sums to expedite war production (and to carry on other war programs) can be explained only by its even greater desire to win the war." (Huzar, 1950, p. 327) Huzar adds "however, the process of financing the program

was not one of complete abdication, for Congress sought, though with only limited success, to retain control over expenditure of these funds." (Huzar, 1950, p. 327)

Even though lump-sum appropriations promote executive discretion and more flexibility in budget execution, they continue to have a considerable amount of congressional control tied to them. Macmahon exclaims that "'lump sum' is hardly the term for it apart from some emergency appropriations." (Macmahon, 1943, p. 402) Even though the lump-sum appropriation language itself leaves wide administrative leeway, Macmahon emphasizes that "a crucial question, therefore, is the continuing force of the highly detailed preparatory material: the estimates, the justifications, and remarks made by the administrators in the hearings." (Macmahon, 1943, p. 402)

Many of these controls, although not included in statutes, are included in understandings between congressional committees and the executive. Fisher states "administrators are subject to general statutory controls, nonstatutory controls exercised by the committees, and basic good-faith agreements and understandings with Congress." (Fisher, 1975, p. 71) Bixler adds that "lump-sum appropriations may include subitems that for some purposes exert the same control as individual line item appropriations; 'lump sum figures [appropriations] do not always reflect the actual scope of Presidential spending discretion'" (Bixler, et. al., 1992, p. 47) Even though an appropriation may be lump sum, the DoD is expected to follow the budget enacted by Congress which is derived from the DoD's itemized budget request. Bixler agrees with Fisher's statement "...'legislative control over lump sum appropriations can be exercised by holding the President to his itemized budget requests, even though that itemization is not included in the appropriation bill'" (Bixler, et. al., 1992, p. 47) Bixler further adds that "this view is consistent with the mandate of the Budget and Accounting Act of 1921, which provided that estimates for lump-sum

appropriations 'shall be accompanied by statements showing, in such detail and form as may be necessary to inform Congress, the manner of expenditure of such appropriations and of the corresponding appropriations for the fiscal year in progress and the last completed fiscal year'" (Bixler, et. al., 1992, p. 47)

In addition to the latter informal controls, Bixler explains that there often is a "moral understanding" that exists between executive agencies and Congress regarding agency budgeting under lump-sum appropriations. This type of control depends on a "keep the faith" attitude among agency officials and a common trust by Congress in the integrity of administrators. A violation of this trust may result in budget cutbacks and increased line-item detail in appropriations for the offending agency. (Bixler et. al., 1992, p. 47)

4. Analysis

Although each type of appropriation has both strengths and weaknesses, studies conducted by public commissions throughout the 20th century have generally supported the use of lump-sum appropriations primarily due to the efficiency-executive orientation of the public administration school. The Taft Commission of 1912 concluded "...that the constant shift toward greater itemization in appropriations and the limiting of discretion for an executive officer was based on 'the general theory that he can not be trusted.'" (Fisher, 1975, pp. 63-64) The overall recommendation of the Taft Commission, despite the fact that individual members of the Commission differed on whether the latter conclusion was at variance with the Constitution, promoted executive discretion and the use of lump-sum appropriations. The Hoover Commission study in 1949 which also promoted the use of lump-sum appropriations, ultimately resulted in eliminating over 200 appropriation items from the fiscal 1951 budget.

Even with the overall momentum throughout the 20th century toward the use of lump-sum appropriations, military appropriations have varied. Huzar concludes that with respect to military appropriations, "...there is no single explanation or 'rational principle' that will account for Congress' itemizing some military appropriations and voting others as lump sums." (Huzar, 1950, p. 330) Although various reasons such as constituent interests, desires to control departmental organization, and even fear of bureaucracy have contributed to Congress' choice of military appropriation controls, "distrust of the executive" has been and continues to be a key factor as to whether appropriations will be line-item or lump-sum. Regardless of whether line-item or lump-sum appropriations are used, Congress continues to carry out its constitutional responsibilities by retaining a high degree of control over the purse.

B. CONGRESSIONAL MICROMANAGEMENT

Although Congress has historically been in favor of line-item appropriations over lump-sum appropriations, congressional micromanagement of the defense budget, according to Owens, has recently become a pervasive problem. Owens contends that two primary factors account for this transition. His first factor contends that Congress itself has changed. Owens asserts that although "the Founders envisioned a body dedicated primarily to deliberation - reasoned debate on issues of broad policy...Congress has come to focus instead on *administration*" (Owens, 1990, p. 141) Owens states that this "... change in focus means that no detail is too small to escape the notice of members of Congress and their staffs." (Owens, 1990, p. 141) Owens further adds that this change in focus "...has been reflected in the expansion of the Armed Services Committees' power to authorize every detail of the defense

budget.” (Owens, 1990, p. 141) His second factor contends that a permanent antidefense bloc emerged in Congress following the Vietnam War marking the end of the post-World War II consensus on national security (Owens, 1990, p. 141).

Jones provides another explanation for congressional micromanagement of the military:

When we raised this issue with defense expert Peter deLeon, he replied that we were asking the wrong question. He claimed that high levels of congressional attention to the details of administration are an inevitable consequence of the growth of federal spending. According to deLeon, Congress has always micromanaged federal spending - congressional preoccupation with the details of administration is ordained by the Constitution, which allocates to Congress the power of the purse, including the power to tax, to borrow, and to spend, and the power to raise and regulate armies.... (Jones et. al., 1994, p. 248)

Jones continues by stating:

DeLeon concluded that congressional micromanagement is a direct consequence of the exercise of government's substantive powers. He surmised that, if the absolute level of congressional micromanagement was lower before World War II, it was because the federal budget was so much smaller. The level of micromanagement is higher now because the federal budget is much larger. (Jones et. al., 1994, p. 248)

Jones further explains that although deLeon's thesis on the surface has considerable validity, it is not entirely consistent with the evidence. Jones

supports Huzar's conclusion that congressional attention to administrative details has waxed and waned throughout history:

Although Congress has zealously guarded its de jure authority to specify the purposes for which it authorizes and appropriates funds and its authority to regulate military procurement and personnel policies, de facto it has often chosen not to exercise its powers. Rather, it has often delegated a portion of its powers to the executive. (Jones et. al., 1994, p. 249)

Jones emphasizes that Congress often delegates a portion of its powers to the executive because Congress is in a better position to deal with broad national issues, not managerial details. Jones summarizes that:

As long as Congress is persuaded that the executive is willing and able to do what it would want done, it has often delegated authority to do those things to the executive. After World War II, and especially during the Eisenhower administration, that is precisely what Congress did. (Jones et. al., 1994, p. 250)

Although Jones concludes from Huzar's survey that congressional micromanagement can be largely attributed to distrust of the executive, other students of public administration believe that congressional indignation has deeper roots:

They stress the role played by the breakdown of the postwar foreign policy consensus in the rise of micromanagement in the 1960s and 1970s. As Allan Schick explains, the discretion granted the Department of Defense during the postwar era by Congress reflected trust that "executive power would be applied benevolently in the national interest.... Viet Nam robbed nonpartisanship of its seductive hold on the loyalty of Congress.... Consequently, during the 1970s, Congress brought new controls into being and applied old controls more intensively." (Jones et. al., 1994, p. 251)

Based on the latter analysis, Jones is optimistic about the prospects for reform and adds "it implies that Congress might grant the executive the authority it needs to run itself in a businesslike manner - if Congress can be persuaded that executive branch leaders will not abuse its trust." (Jones et. al., 1994, p. 251) Trust clearly played a role in determining what changes in the FMP budget structure were needed in FY 1990 to get the program back on track.

C. SUMMARY

This chapter has taken a close look at the use of line-item and lump-sum appropriations to control the military purse throughout our nation's history. Line-item and lump-sum appropriations are no more than a form of management control. Control system design and implementation has historically been a dilemma for management. Although necessary to ensure compliance with the myriad of rules and regulations that exist both in government and in the civilian sector, the question of what, where, when, and in the case of human systems, whom to control needs to be constantly addressed. Determining what and where to control is usually much more straight forward than determining whom to subject to controls and when the controls should be executed.

The process of determining how much administrative control is enough involves weighing the benefits against the costs of the control. Economic theory tells us that we will eventually reach a point where the marginal benefits of administrative controls equal the marginal costs of the controls. Eliminating all abuse, both actual and perceived, would be economically and administratively very impractical. Jones emphasizes that with respect to helping us avoid waste, controls generate substantial savings, although "...it must be recognized that controls are themselves very costly." (Jones et. al., 1994, p. 182)

In the next chapter the question, "what is the FMP?," will be answered. Although only a brief summary of this complex program from an "outside" perspective, Chapter III provides the reader with the necessary working understanding of the FMP to address the changes in the FMP budget structure since FY 1989 and provides the background required to begin considering current FMP strengths and weaknesses.

III. OVERVIEW OF THE FMP

Before analyzing the changes in the FMP budget structure, it is first important to answer the question, "what is the FMP?". Due to its complexity, many of the people involved with the FMP not only do not have a good integrated understanding of its interrelated parts, they do not believe this level of understanding can be achieved. Few people involved with the FMP attempt to look beyond their individual piece of the puzzle. It is this complexity which often invokes comments such as "fragmented infrastructure," "lack of procedures," and "little value added." The following overview helps to objectively describe this complex program.

A. INTRODUCTION

The FMP is a comprehensive program that encompasses all aspects of modernizing the ships of the active and reserve fleets. Comprising only a fraction of the Navy's procurement budget, approximately \$1 billion per year, the FMP provides a framework for the identification of modifications required to increase the capability or reliability of a ship to perform its assigned mission and accomplishment of these modifications. Not all ship modifications fall under the FMP. One specific exception to the FMP includes modifications affecting the TRIDENT System which fall under the cognizance of NAVSEA (PMS 396). (OPNAVINST 4720.2G)

In order to ensure configuration control and sound design within Navy ships, all FMP modernization efforts involve "alteration" documents. These documents provide "...standard designs, material lists, and instructions for modernization accomplishment, which serve as installation guides and also simplify repairs, logistics support, damage control and configuration

control." (FMP Manual, p. EXSUM-2) FMP modifications include Ship Alterations (SHIPALTs), Ordnance Alterations (ORDALTs), and Machinery Alterations (MACHALTs). Alterations are defined as "any change in the hull, machinery, equipment or fittings of a ship which involves a change in design, materials, number, location or relationship of the component parts of an assembly regardless of whether it is undertaken separately from, incidental to or in conjunction with repairs." (OPNAVINST 4720.2G)

Although there are numerous types of alterations in the FMP, the basic building block of the FMP, the Title K SHIPALT, is the most complex and comprises most of the modernization effort during scheduled ship availabilities. A Title K SHIPALT is defined as "a permanent alteration to provide a military characteristic or additional capability not previously held by a ship affecting configuration controlled areas or systems of a ship or which otherwise requires the installation of HCPM." (OPNAVINST 4720.2G) Title K SHIPALT installations "...consume the bulk of FMP funding and manpower resources and typically require extensive advance and production planning; assembly of materials, tools and installation support documents; and periods of time during which a ship is free of operational commitments." (FMP Manual, p. EXSUM-4) Other permanent alterations such as Title D and Title F SHIPALTs are less complex than Title K SHIPALTs, do not affect the military characteristics of a ship, and are authorized for accomplishment by the Fleet Commander-in-Chief (CINC). The Appendix describes the latter FMP SHIPALTs in more detail. This study will concentrate on the Title K SHIPALT since an understanding of the Title K SHIPALT process is critical to understanding the FMP process.

The FMP consists of an integrated multi-year schedule of equipment procurement and installation on designated ships based on prioritized lists of ship alterations by ship class. This integrated plan is developed and programmed by OPNAV based on inputs from CINCs, Type Commanders

(TYCOMs), NAVSEA, Naval Air Systems Command (NAVAIR), and Space and Naval Warfare Command (SPAWAR). Other FMP components include engineering design services, program design services, and program support required for program execution. FMP funding is programmed by OPNAV Resource Sponsors based on requirements identified by Hardware Systems Commands (HSCs), Life Cycle Equipment Managers (LCEMs), or Ship's Program Managers (SPMs). (OPNAVINST 4720.2G)

Although the FMP is a CNO program, NAVSEA has overall responsibility for planning and execution of the FMP in accordance with OPNAVINST 4720.2G. All Systems Commands are responsible for managing and executing procurement of FMP material under their cognizance. Additionally, SPAWAR and NAVAIR are responsible for preparing FMP budget inputs.

B. COMPONENTS OF THE FMP

It is convenient to describe the components of the FMP on the basis of how they are budgeted. The FMP can be easily broken down into four cost elements. These elements include procurement of Headquarters Centrally Provided Material (HCPM), Title K SHIPALT installation funding and advance planning funding, Design Services Allocation (DSA), and Alteration Installation Team (AIT) and program support.

1. Procurement of HCPM

HCPM required for modernization efforts is provided by the responsible Systems Command Life Cycle Equipment Managers (LCEMs)/Participating Managers (PARMs) with Other Procurement, Navy

(OPN), Weapons Procurement, Navy (WPN), and Aircraft Procurement, Navy (APN) funds in the appropriate P-1 equipment line (subhead). Subheads are used primarily for administration, accounting, and control of an appropriation. These funds are budgeted in the budget FY necessary to accommodate procurement lead time and delivery to the installation site in order to be available for the planned installation. The Systems Command LCEMs/PARMs are also responsible for developing and budgeting their portion of the FMP budget which includes estimating total procurement costs and accurately timing procurements to meet installation schedules.

2. Title K SHIPALT Installation Funding

Title K SHIPALT installation funding covers both the installation and advance planning of a specific modification. Advance planning (long range efforts preceding installation) includes such items as prefabrication, issue of plans and job orders, and identification and purchase of required incidental material. Advance planning funding is required earlier than installation funding and therefore is budgeted in the budget FYs in which advance planning efforts will be required, in the same P-1 equipment line as the major equipment procurement and all other installation funds for the installation. Installation funds for Title K SHIPALTs which require HCPM are budgeted in the appropriate procurement appropriation, in the same P-1 equipment line as the major equipment in the year in which the installation requirement exists. When HCPM is not required for a Title K SHIPALT, installation and advance planning is budgeted and funded in Operations and Maintenance, Navy (O&MN) in the budget FYs required. (FMP Manual, pp. EXSUM-7-8)

In FY 1993, Director, Space and Electronic Warfare (N6) was given installation programming and fiscal responsibility for Communications, Command, and Control (C³) procurements funded by N6. Prior to this

change, installation sponsorship for C³ alterations resided with N86, N87, and Director, Air Warfare Division (N88): "incorporated in this decision is a change to FMP policy that states research and development, procurement and installation funding for an equipment program will reside in only one organization." (N80 memo dated 13 October 1992) This shift in responsibility gave N6 an active voice in the FMP even though NAVSEA retained overall responsibility for planning and execution of the FMP.

3. Design Services Allocation (DSA)

DSA funds:

...most SHIPALT design products and efforts, as well as changes to configuration control documents, logistics documents and operating procedures that result from SHIPALT installations, and Planning Yard costs associated with these efforts...The key test of legitimacy of an FMP DSA requirement is that it must be an effort directly related to a SHIPALT design effort or product, or a configuration control documentation effort that is a direct response to the impact of a SHIPALT installation. (FMP Manual, p. EXSUM-8)

DSA efforts are budgeted and funded in O&MN regardless of the source of procurement or installation funding.

4. Alteration Installation Team (AIT) and Program Support

This component of the FMP includes the remaining FMP efforts such as installation of Title K SHIPALTS scheduled outside of scheduled depot-level availabilities, those installed by AITs, special modernization efforts directed by AITs, and special modernization efforts directed by CNO Warfare Sponsors. Installation costs for this component of the FMP fall under the

same funding rules that apply to Title K SHIPALT installations. Additionally, program support includes ADP elements of the FMP.

a. Automated Data Processing (ADP) Support

ADP support is in turn comprised of three separate but interconnected systems which include FMPMIS, SABRES, and SAFE. FMPMIS is a mainframe-based distribution system which is used for planning all aspects of the FMP: "all elements of the FMP must be resident in the FMPMIS database if they are to be considered in the planning, programming and execution processes." (FMP Manual, p. 6-13) FMPMIS includes such data as SHIPALT information, prioritization decisions of the CNO Platform Sponsors, ship availability schedules, FMP material requirements for SHIPALTS, and the "approved" results of the CNO Platform Sponsors' programming of Title K SHIPALTS into specific availability packages (FMP Manual, p. 6-13). FMP policy states that "FMPMIS is the only sanctioned authoritative source of information for all activities to use in carrying out their responsibilities under this instruction, and therefore must reflect the most current and complete modernization information." (OPNAVINST 4720.2G)

SABRES is a PC-based system which is utilized exclusively by the CNO Platform Sponsors, SPMs, and NAVSEA and whose "...primary purpose is to allow CNO Platform Sponsors to manipulate data downloaded from FMPMIS, into discrete Title K SHIPALT availability packages, fully costed, in order to finalize their respective FMP budgets, matching the available dollars and their highest priority program elements." (FMP Manual, p. 6-13) SABRES allows this "gaming" process to proceed without actually altering the FMPMIS database. Once the gamed program is approved

by CNO, it is uploaded into FMPMIS so that both FMPMIS and SABRES reflect the most recent CNO approved program. (FMP Manual, p. 6-13)

SAFE is a PC-based financial execution and tracking system which is used by NAVSEA and the SPMs. The approved FMP is loaded into SAFE and SAFE is then used to account for all FMP financial transactions, communicate execution year obligation plan data between NAVSEA and the SPMs, and create all FMP funding documents. (FMP Manual, p. EXSUM-12)

C. FMP PROCESSES

The entire FMP can be broken down into a combination of separate processes. These processes include SHIPALT development, FMP program development, Program Objectives Memorandum (POM)/budget development, and program execution.

1. SHIPALT Development

Proposed improvements to ships and their equipment/systems can originate from sources both inside and outside the Navy. These proposed improvements can either be military, survivability, or technical improvements. Once received, the proposals are categorized and evaluated for possible inclusion in the FMP; military and survivability proposals are submitted to the appropriate CNO Platform Sponsor for approval and technical proposals are submitted to the appropriate SPM for approval.

Once approved, proposals are forwarded to the appropriate SPM for development of the Justification Cost Form (JCF). The JCF is used by the SPM and the Change Control Board (CCB) to determine whether to proceed with full SHIPALT development. The JCF identifies the SHIPALT justification, critical material requirements, initial installation cost estimate, and applicable

ship classes. After approval by the SPM and after the decision has been made by OPNAV to program and fund the SHIPALT, the SPM enters the SHIPALT into FMPMIS and determines whether to task a Ship Alteration Record (SAR). (FMP Manual, pp. EXSUM-13 - 14)

The SAR is class-specific and more detailed than the JCF. The SAR contains specific material requirements, refined cost estimates, ship impacts, ship system interfaces, Integrated Logistics Support (ILS) impacts, sketches, and required removals. SARs are usually developed by the Planning Yards and funded from DSA. The Planning Yards which can be either public or private, work closely with the SPMs during SHIPALT development. (FMP Manual, p. EXSUM-14)

Upon approval of the SAR by the SPM, the SPM tasks the Planning Yard to develop SHIPALT Installation Drawings (SIDs) which are ship specific to the first ship scheduled to receive the SHIPALT. SIDs are also funded by DSA and are a collection of several drawings and data packages necessary for the accomplishment of the installation of the SHIPALT. (FMP Manual, p. EXSUM-14)

2. FMP Program Development

The FMP program development process begins with the Joint Mission Area (JMA)/Support Area (SA) assessment process:

The assessment process is designed to link the Navy-Marine Corps capabilities with the Mission and Support areas in a joint environment. The assessment teams are chaired by Navy Flag or Marine Corps General Officers; they provide a broad view of senior officers from across OPNAV, while bringing special warfare expertise and experience to the assessment process. The teams also include Fleet Commanders in Chief (CINCs) and representatives from Headquarters, Marine Corps.

The assessment process results are then integrated into a single investment strategy.... The objective of the Navy's integrated investment strategy is to provide coordinated planning that will ensure that the Navy is capable to carry out its mission in the future. (Ennis et. al., 1995, p. 4-3 - 4)

Future modernization efforts for the Navy are the direct result of shortfalls in capability identified in the assessment process. The Navy's primary review forum, the Integrated Resource and Requirements Review Board (IR³B), establishes direction and provides guidance on the assessment process recommendations (Ennis et. al., 1995, p. 4-4).

Based on the macro modernization requirements identified during the assessment process, the individual OPNAV Resource Sponsors which include N6, Director, Expeditionary Warfare Division (N85), N86, N87, and N88 identify individual and groups of alterations which meet the modernization requirements. The Resource Sponsors prioritize these lists of alterations based upon recommendations of the CINCs, TYCOMs, and NAVSEA SPMs.

The Resource Sponsor prioritized alteration lists are submitted to the Ships Characteristic Improvement Panel (SCIP) FMP Working Group during an annual FMP Conference for approval and integration into an overall OPNAV ship modernization priority. Depending on the approval and priority assigned by the SCIP, the Resource Sponsors proceed to program alterations using FMPMIS and SABRES during the POM process. Additionally, resource sponsors also program DSA, alteration installation programs, and AITs and program support utilizing SABRES. The end product of the FMP program development process "...is an integrated program of equipment procurement, authorized alterations, design and logistics support which install the authorized system and equipment improvements to the Navy's ships and service craft. A balanced program

requires coordination of funding, alteration design development, equipment procurement (as required) and accomplishment." (OPNAVINST 4720.2G)

3. POM/Budget Development

FMP planning is conducted in accordance with the normal Navy Planning, Programming, and Budgeting System (PPBS) process. The Deputy Chief of Naval Operations (Resources, Warfare Requirements, and Assessments) (N8) coordinates "...the overall planning and programming of ship modernization efforts among the OPNAV resource sponsors through all phases of Program Objectives Memorandum (POM) and budget development." (OPNAVINST 4720.2G)

"POM" is both a process and a product. The POM process which begins every other October (even numbered FYs) produces the Navy's submission of the six-year Future Year Defense Plan (FYDP) to the Office of the Secretary of Defense (OSD). The FYDP is a "snapshot of requirements." The budget process takes the FYDP and refines the closest two years into operating budgets and "if a modernization effort does not appear in the POM and the budget, it is unlikely that it will appear in an approved FMP." (FMP Manual, p. 6-17)

Based upon priorities established by the SCIP FMP Working Group, during the POM process, the OPNAV Resource Sponsors program resources for the accomplishment of alterations (including equipment and design) on an individual hull during a specific maintenance availability as part of Sponsor Program Proposals (SPPs). Resource Sponsors also program resources for DSA and ILS as required to support installation plans. The FMP funded portion of the budget includes only approved alterations, design, and logistics support. (OPNAVINST 4720.2G)

4. Program Execution

NAVSEA serves as the "...execution coordinator for FMP ship alteration installation plan and has overall responsibility for the technical development and approval of alterations." (OPNAVINST 4720.2G) NAVSEA executes each CNO Platform Sponsor's program by FY and P-1 line in the FMP budget. Figure 1 graphically depicts FMP funding during execution for Title K alterations.

Prior to the start of each FY, NAVSEA, in conjunction with the SPMs, develops the Execution Management Plan (EMP). The EMP, a financial obligation plan which reflects each OPNAV Resource Sponsor's approved program/budget and the expected allocation of obligational authority to NAVSEA, is entered into SAFE as the baseline for FMP execution. Once this baseline has been established, "...all SPMs and AIT/Program Support Managers are responsible for submitting official funding requests, requesting funding document creation and approval consistent with the dates and values in the EMP." (FMP Manual, p. 6-20)

Throughout execution, program size can vary since the approved FMP is based solely on cost estimates:

To accommodate these differences between estimates and actual costs, a separate account is maintained for each CNO Platform Sponsor and SPM, named the Earned Variance (EV) account. Ideally, costs above estimates may be balanced out by costs below estimates within these accounts. If this is not the case, Escrow Changes must be approved to keep the program in balance with the budget...One major opportunity exists for budget adjustments during execution, during the annual May-June Mid-Year Review, at which time claimants submit unfunded requirements for consideration, for which other funds may then be made available to the FMP from NAVCOMPT. (FMP Manual, p. EXSUM-18)

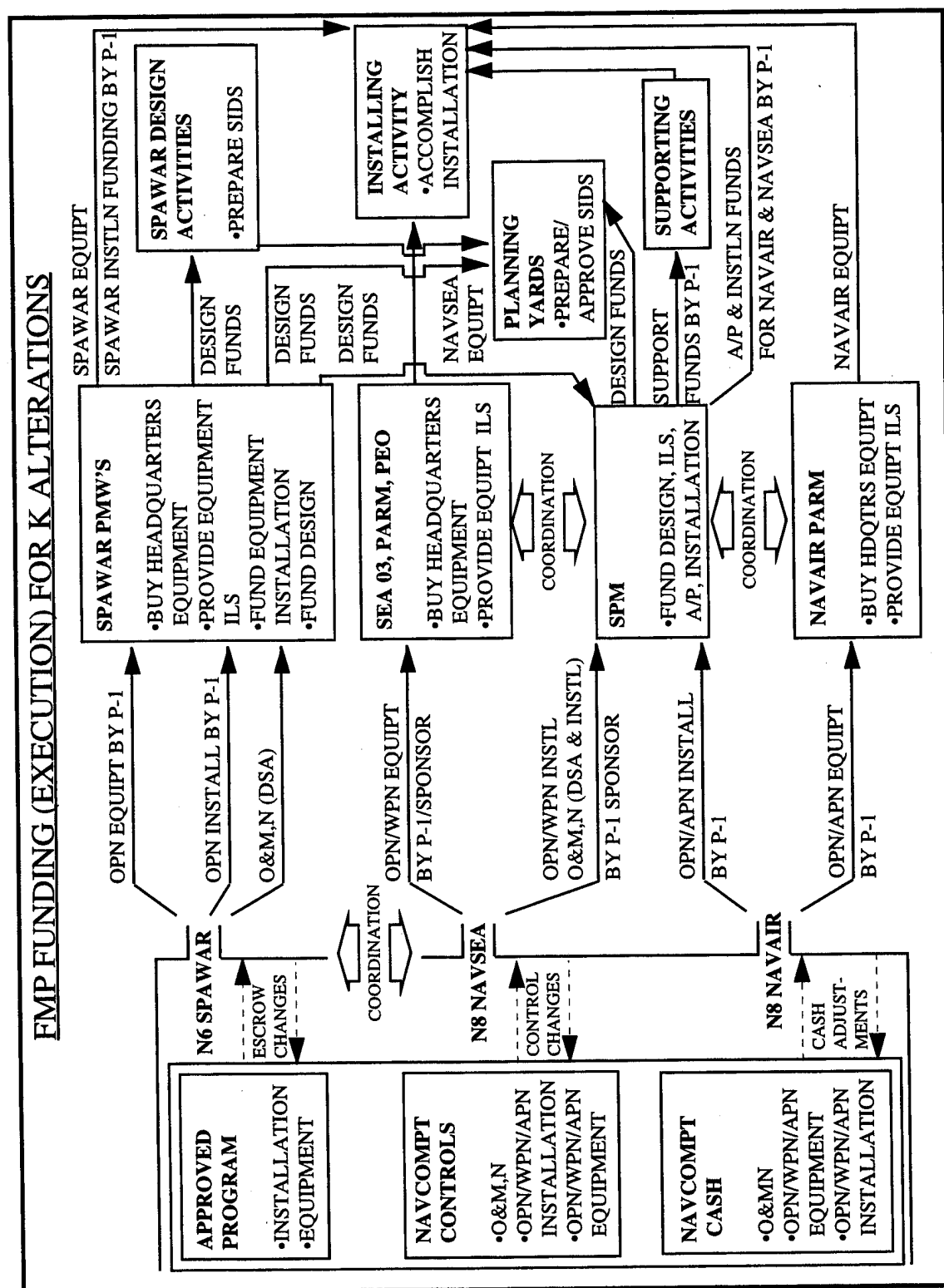


Figure 1. FMP Funding During Execution for Title K Alterations.

a. Reprogramming

NAVSEA must ensure that increases to individual P-1 lines do not exceed the reprogramming threshold of \$10 million in any given FY. Once this threshold is exceeded, reprogramming requests must be submitted to Congress for approval.

D. SUMMARY

This chapter has answered the question, "what is the FMP?". The latter overview clearly depicts a complex and highly "fragmented" program. The material for this chapter was compiled from numerous sources. When summarized in this fashion, the FMP actually makes sense. The problem however, is that outside of some readily available sources such as OPNAVINST 4720.2G and the FMP Manual, much of this information is not formalized or written down in any one place. Many of the people working in the FMP often refer to this "lack of procedures" when openly expressing their views of the FMP.

In the next chapter, the changes in the FMP budget structure since FY 1989 will be addressed. These changes closely parallel the line-item and lump-sum material presented in Chapter II.

IV. BACKGROUND AND ANALYSIS OF CHANGES TO THE FMP BUDGET STRUCTURE SINCE FY 1989

Chapter IV systematically analyzes the FMP budget structure changes since FY 1989 by incorporating knowledge of the different types of appropriations with an integrated understanding of the FMP.

A. BACKGROUND

Since FY 1989, a series of FMP Appropriation changes has resulted in each budget year FMP being budgeted and executed differently. These changes were initiated to ensure that procured equipment for modifications was actually being installed, and to improve the accountability of total system end-item costs in the budget.

1. Prior to FY 1990

Prior to FY 1990, equipment installation costs were budgeted in Operations and Maintenance, Navy/Navy Reserve (O&MN/R) Appropriations. There were three lines of accounting data with the funding split between the three Platform Sponsors which included N86, N87, and N88 (formally OP-03, 02, and 05 respectively).

HCPM for the FMP was procured with OPN, WPN, and APN funds by System Command LCEMs/PARMS for the equipment involved in whatever budget FY necessary for the equipment to be ready for installation in the FY of the installation. Other costs associated with modernization efforts were budgeted in O&MN/R by the SPMs in the budget FY in which the

modification was to start, or in the budget FY the ship's modernization availability was to begin. (FMP Manual, p. EXSUM-3)

Since O&MN/R FMP installation funds were essentially in a lump sum, there was not a close funding linkage between the HCPM and the installation of this material. Due to operational commitments often taking precedence over modernization efforts, procured material frequently did not get installed in the budget FY planned and sometimes never got installed due to the material either becoming obsolete by the time the ship was available for modification or the ship ultimately being decommissioned before the material could be installed. For example, prior to FY 1990, a sonar upgrade that was deferred due to operational commitments might have never got installed because a newer and more capable system had replaced it by the time the ship was available for modification.

Compounding the latter problem, O&MN/R FMP funds were frequently "diverted" to fund "emergencies"(higher priority programs) raising the likelihood of unfunding other modernization installation efforts. The end result was a large amount of HCPM being installed significantly after the FY it was budgeted to be installed or not being installed at all.

B. FY 1990 - 1992

1. Full Funding

a. Background

In FY 1989, in an effort to correct the equipment/installation mismatch, the OSD proposed to Congress to move funds for installing "modernization" equipment from the operations appropriations to

investment appropriations. Congress was receptive to this change only if funding for the installation of modernization equipment was tied to equipment procurement. With the enactment of the FY 1990 budget, Congress directed that all FMP costs be budgeted in the procurement appropriations, OPN, WPN, and APN. The following excerpt from the FY 1990 Conference Report of the Senate and House Appropriations Committees details this direction:

The conferees agree with the Senate proposal to follow the full funding policies of the Department of Defense and show the cost of installing equipment required to modernize existing forces as part of the acquisition of equipment. Heretofore, the Department has budgeted these costs on an incremental basis in the Operation and Maintenance accounts, requesting only those amounts required to accomplish current year installations. Thus the acquisition costs of the end items were understated. (House Report 101-345, p. 58)

This congressional direction clearly included a movement away from lump-sum appropriation control of the FMP and toward line-item appropriation control:

The conferees agree that beginning with the fiscal year 1991 budget request, these costs should be budgeted by individual line item in procurement. The request should separately identify both the cost of the item to be procured and the cost of installing the item. (House Report 101-345, pp. 58-59)

Additionally, the FY 1990 Conference Report of the Senate and House Appropriations Committees directed the Department of the Navy "...to submit a report to the House and Senate Committees on Appropriations on any difficulties encountered implementing this change in the Other Procurement, Navy appropriation account." (House Report 101-345, p. 59)

Congress believed that with different appropriations there was not sufficient accountability of total system end-item costs in the budget, and that an insufficient link between procurement and installation existed which allowed material to be procured but not installed. The "full funding" concept required that FMP installation costs be budgeted in the same Budget Activity, P-1 line (subhead) and in the same budget FY as the procurement of the HCPM itself regardless of when the modernization effort was to commence. The "full funding" policy change was "...to allow for the full cost of ship systems and modernization to be assessed during the review of these Navy procurement appropriations, and to ensure that HCPM will not be procured for installation without sufficient funds being available as well." (FMP Manual, p. 6-3) The discipline provided by "full funding" would hopefully alleviate the excessive and unmanageable buildup of modification kits awaiting installation.

b. Budget Authority - Outlay Mismatch Problem

In addition to the OSD's desire to correct the equipment/installation mismatch problem, an underlying theme leading into the OSD's proposal to shift to the "full funding" concept in FY 1990 was the ongoing dispute over differences between the way the DoD and the Congressional Budget Office (CBO) scored outlay estimates. With deficit reduction becoming increasingly important, outlays, which directly affect the deficit, were being closely monitored. In the FY 1990 defense budget, the Pentagon identified over \$3 billion of "methodology" differences between the

way the DoD and the CBO estimated outlays. The Secretary of Defense (SECDEF), Dick Cheney, in a letter to Senator Jim Sasser, Chairman, Committee on the Budget United States Senate, stated:

I am concerned that decisions may be made during the authorization and appropriation process which will be disruptive to the Defense programs without really contributing to the deficit reduction goal. I urge you and your committee to recognize limitations that exist in accurately forecasting outlays and to avoid potentially damaging changes to the Defense programs based on these estimates. (SECDEF, Letter dated 6 June 1989)

Part of the difference between the DoD and the CBO outlay estimates was due to the CBO applying their outlay rates to Budget Authority and the DoD applying rates to Total Obligational Availability (direct Program and Reimbursable Program). Of the five critical areas of technical difference between the DoD and the CBO outlay scoring identified by the Pentagon, "the major differences involve CBO (1) not reflecting historical experience when determining their O&M first year outlay rates (\$2.1 billion); (2) not considering all relevant factors concerning the stock funds (\$1.0 billion); and (3) assigning identical outlay rates to the major Military Personnel appropriations even though historical trends reflect different outlay profiles (\$.3 billion)." (SECDEF, Letter dated 6 June 1989)

Sean O'Keefe, Comptroller of the Department of Defense, in a letter to Senator Pete Domenici stated that "the FY 1990 outlay difference between CBO and DoD, while small in percentage terms, is large enough in absolute terms to warrant a comprehensive review of our respective methodologies with the idea of adopting a single approach to estimating outlays for the FY 1991 and future budgets." (O'Keefe, Letter dated 19 July 1989) While understanding the need to ultimately reconcile differences between the DoD and the CBO outlay estimates, in the short term for FY 1990,

DoD proposed to shift some of the installation expenditures in the FY 1990 defense budget from O&M to procurement. In a memo to Senator Domenici, Senate staffer Dick Doyle referenced this shift by stating:

DoD would get an additional \$1.1 billion in outlay savings from this procedure. The rationale is that it makes sense to consider the installation costs as procurement where the installation occurs in the same year as the procurement of the parts to be installed. So far CBO is inclined to accept this maneuver despite the argument that a shift of this kind is theoretically outlay neutral. If someone makes a stink about it, they may change their mind. (Doyle, Memo dated 23 June 1989)

This realignment of funds helped to alleviate a good portion of the difference between the DoD and the CBO outlay estimates for FY 1990.

c. Implementation

In order to make the transition to "full funding," Congress transferred \$1.9 billion from O&M appropriations to procurement appropriations in FY 1990 to fund the installation of HCPM equipment planned to be installed in FY 1990. Additionally, Congress transferred \$3.0 billion to fund the installation of equipment procured but not planned for installation until subsequent fiscal years (House Report 101-345, p. 59). This "Installation of Prior Year Equipment" (OPN/WPN) which had a three year obligational authority, was extended in FY 1992 for an additional year. Although Congress believed that difficulties experienced in achieving obligations before appropriation expiration were largely due to insufficient and inadequate management attention, Congress did recognize that "...during the first year of implementation of the new funding policy (fiscal year 1990) some legitimate problems were and continue to be encountered." (Congressional Record, 1991, p. H10474) Additional language in the

testimony leading up to the 1992 Conference Report of the Senate and House Appropriations Committee stated:

The conference provision includes a one-time, one-year extension for fiscal year 1990 procurement appropriations only for the installation of equipment for which procurement obligations were made before the appropriation expired.... The conferees expect that this provision will not have to be repeated in future years. (Congressional Record, 1991, p. H10474)

Despite the language used in the testimony leading up to the FY 1992 Conference Report of the Senate and House Appropriations Committees, the obligational authority of FY 1990 "Installation of Prior Year Equipment" was again extended for an additional year in the FY 1993 Defense Appropriations Bill which stated, "...that during the current fiscal year and the following fiscal year, additional obligations may be incurred under fiscal year 1990 procurement appropriations for the installation of equipment when obligations were incurred during the period of availability of such appropriations for the procurement of such equipment but obligations for the installation of such equipment were not able to be incurred before the expiration of the period of availability of such appropriations." (Public Law 102-396, Sec. 9034)

In addition to "Installation of Prior Year Equipment," "full funding" provided "Modernization Support" OPN funds to fund all efforts not associated with specific equipment installations such as SHIPALT design, configuration control documentation, program ADP support, etc. With the exception of the transition year, FY 1990, in which the FMP was only executed under "full funding," the FMP was both budgeted and executed under "full funding" in FY 1991 and 1992. By FY 1992, it became apparent to the Navy that problems were starting to develop with FMP execution due to "full

funding." With less flexibility provided by the line-item control, the Navy was having trouble with execution of the FMP.

d. Difficulties Encountered Implementing Full Funding

In response to the direction provided in the FY 1990 Conference Report of the Senate and House Appropriations Committees, the Secretary of the Navy (SECNAV), on 22 July 1991, submitted a letter to Congress which outlined the difficulties encountered implementing the "full funding" FMP change. The three specific problem areas identified included equipment lead time, accuracy of budget estimates, and loss of flexibility.

Due to the long lead times associated with modernization equipment, the three year obligational authority of procurement funds was a primary concern to the Navy since "installations of ship alterations typically do not occur for a minimum of three years after funds have been made available and, in the case of exceptionally complex alterations, may not occur for up to five years or more." (SECNAV, Letter dated 22 July 1991) If procurement lead times exceeded three years or lengthy equipment lead times coupled with ship operational commitments pushed the modification time line past three years, the Navy could potentially be left with millions of dollars of modernization equipment with no funds for installation. (SECNAV, Letter dated 22 July 1991)

Another difficulty encountered with "full funding" implementation was the accuracy of budget estimates. With the characteristic long lead times of modernization equipment, it was difficult to accurately predict such factors as shipyard workload and inflation on manday rates. Ship operational schedule changes compounded the estimate process by potentially changing not only the FY of the modernization availability but the

actual location of the availability. Additionally, since modification designs are tailored to specific ships and ship classes and are normally not complete until one year before the modification is scheduled, budget estimates under the "full funding" concept were being developed far in advance of design completion. (SECNAV, Letter dated 22 July 1991)

The third "full funding" implementation problem was a lack of flexibility in executing approved programs; a problem which was directly related to the accuracy of budget estimates. Inaccurate estimates could lead to transfers of funds between line items and "when the requirement for these transfers exceeds reprogramming thresholds, formal notification of the Defense oversight committees will be required, greatly increasing the administrative workload on both the committees and the DoN." (SECNAV, Letter dated 22 July 1991) SECNAV concluded his letter by stating:

The Navy is committed to implementing the new policy of including costs of installation as an element of fully funding procurement. At a minimum, this will require extension of obligation authority and some mechanism to increase flexibility during execution. (SECNAV, Letter dated 22 July 1991)

e. FY 1992 Rescission

Frustrated with the DoD's ability to effectively manage the installation of modifications, Congress, in early FY 1992, rescinded \$330 million in FY 1990 through FY 1992 OPN funds for installing modernization equipment. As outlined in the SECNAV's letter, from the Navy's perspective, the problem continued to be largely caused by the long lead times associated with modernization equipment which in turn resulted in an inability to obligate funds before they expired (House Report 102-530, pp. 27-28). This action, coupled with Congress' refusal to lift the obligation limit for

installation funding, rendered the "full funding" approach unworkable for modification equipment which could not be procured and installed within the three year obligational authority period. With modification equipment beginning to accumulate again, the DoD and the DoN turned to the budget structure to resolve the problem.

C. FY 1993 TO THE PRESENT

1. Annualization of Installation Costs

a. Background

Due to the growing number of execution problems caused by "full funding," the recent \$330 million in rescissions, and Congress' reluctance to extend the obligational authority of installation funds with the exception of extending the obligational authority of FY 1990 "Installation of Prior Year Equipment" funds one year at a time, the Navy persuaded DoD and ultimately Congress to annualize installation costs starting in FY 1994. "Annualization" involved budgeting installation costs on an "as needed" basis in the FY the modification was actually required rather than in the FY of the initial equipment procurement. Although the FY 1994 Defense Appropriations Bill reflected the "annualization" concept, Congress reluctantly accepted DoD's argument for the change.

The following excerpts from the FY 1994 Senate Appropriations Committee Report discuss this reluctance and the background of the "annualization" change:

The Committee has been informed by the Defense Department that in some cases managers are unable to order and take delivery of a modification kit and have the kit installed within the 3-year statutory limitation of the affected procurement accounts. The Committee is not able to understand why, in most circumstances, this has been the case. (Senate Report 103-153, p. 109)

The Naval Nuclear Program was one of the Navy's hardest hit areas as a result of the "full funding" change. Due to the unusually long lead times for nuclear components (typically three to five years), over 90% of nuclear installations were falling outside the three year OPN limitation. Even though Congress attributed a lot of the execution problems to inadequate management attention, Congress did acknowledge that there was a problem and reluctantly agreed to the "annualization" change:

The Committee continues to believe that the current policy is the appropriate method to manage modification installations. Reluctantly, the Committee agrees to support the new approach offered by DoD, with minor modifications. (Senate Report 103-153, pp. 109-110)

Additional language in the FY 1994 Senate Appropriations Committee Report detailed the "minor modifications" which primarily involved budget presentation:

The Committee directs that the Defense Department inform the Congress of the total cost of installing each kit to be purchased and display, by program, the fiscal years in which the installation funds will be requested. In addition, the justification documentation for modification programs shall specify by fiscal year the installation costs for those kits which have already been provided. (Senate Report 103-153, p. 110)

The FY 1994 Senate Appropriations Committee Report concluded by stating that the "...funds requested and appropriated for installation costs are available only for installing the specific equipment for which the funds were appropriated." (Senate Report 103-153, pp. 109-110)

Language in the FY 1994 Conference Report of the Senate and House Appropriations Committees reemphasized Congress' reluctance to accept the "annualization" change:

The conferees agree with the Senate report on policy and procedures for budgeting for the installation of modifications. Specifically, the conferees reluctantly agree to the budget proposal to incrementally fund these costs in procurement. (House Report 103-339, p. 78)

b. Transition

Program Budget Decision No. 156, dated 11 December 1992, outlined the FMP shift to "annualization" starting in FY 1994. A 9 November 1992 memo from the Assistant Secretary of the Navy for Financial Management to the Comptroller of the Department of Defense concerning

PBD No. 156 explained the Department of the Navy's position on "annualization" of installation funding:

It has the benefit of better matching equipment and installations to dynamic ship maintenance schedules. It is not restricted to three - or five-year funding availabilities and therefore will neither result in unexecuted obligations or await the improbable extension of funding availabilities by the Congress. Neither will the Congress be able to tap into any unobligated funds like they did this past year when they rescinded \$330 million and created an unfunded deficiency you are now required to pay out of existing DoD resources.

The memo continued by emphasizing:

...we continue to budget for the equipment installation in the appropriate procurement line item, allowing management visibility and control in budgeting and execution. This approach will maintain the focus between equipment and installation both from a management as well as a budget review perspective. (ASN, Memo dated 9 November 1992)

Prior to finalization of PBD No. 156, the Navy had submitted its FY 1994 FMP budget to the DoD in an annualized format. The Navy applied the "annualization" concept to all equipment installation, "Modernization Support," and "Installation of Prior Year" P-1 lines for FY 1990 through FY 1995 budget years. The FY 1994 budget control was zeroed due to savings from prior-year fully funded appropriation controls. The DoN's intent was to transition to an "annualized" FMP in FY 1994 and start with a fully "annualized" FMP beginning in FY 1995.

PBD No. 156 approved the Navy's request to "annualize" installation funds and directed the Navy to use the savings from the shift to "annualization" to fund FY 1990/1991/1992 installation shortfalls. Additionally, PBD No. 156 directed that "Modernization Support" funds be transferred from the OPN appropriation to the O&MN appropriation.

O&MN funds would now be used to fund such items as SHIPALT advance planning and installation efforts, both in and out of scheduled availabilities, which do not install HCPM and for annual costs for management information systems, engineering and technical planning documentation, as well as ship configuration documentation updates following the installation of modifications (SEA 01P, Memo dated 2 September 1994).

The shift of "Modernization Support" funds from OPN to O&MN "...was a result of an OSD determination that these requirements should not be in the procurement appropriations since they did not relate to an end-item installation." (FMP Manual, p. EXSUM-4) Although the Navy complied with the directed fund shift, the Navy believed that:

Keeping these funds in the same appropriation is beneficial since they support necessary design, advance planning and ship alterations which are basically conjunctive with planned ship availabilities for which specific equipment is being procured in OPN. If placed in the O&M world, these funds could be subject to the same diversions for other emergent requirements we have seen in the past. (ASN, Memo dated 9 November 1992)

This shift was essentially a move back toward lump-sum control.

D. SUMMARY

This chapter has taken a comprehensive look at the changes in the FMP budget structure since FY 1989. Incorporating a knowledge of the different types of appropriations with an understanding of the FMP, one can observe that the FMP budget structure has varied between lump-sum and line-item appropriation control. Where Congress has traditionally preferred more FMP funding control through the use of line-item appropriations, the DoD and DoN have preferred more flexibility through the use of lump-sum

appropriations. Although "full funding" changes in FY 1990 were line-item in nature, their inflexibility in certain situations has prompted the recent movement back toward more lump-sum control of the FMP; a movement which has been recommended by the DoD and DoN and reluctantly accepted by Congress.

In the next chapter, an overview of the TRIDENT modernization program will be presented followed by an evaluation of the strengths and weaknesses of both the FMP and TRIDENT modernization program.

V. STRENGTHS AND WEAKNESSES OF THE FMP AND TRIDENT MODERNIZATION PROGRAM

In order to objectively evaluate the strengths and weaknesses of the current FMP budget structure, it is important to examine another highly successful modernization program. This program, the TRIDENT modernization program, has a completely different budget structure which unlike the FMP, is largely lump-sum funded through a single Program Office.

A. OVERVIEW OF THE TRIDENT MODERNIZATION PROGRAM

1. Introduction

TRIDENT modifications are an integral part of the whole TRIDENT configuration management scheme. In contrast to the FMP, modifications are considered on a "platform" basis instead of on an "equipment" basis. TRIDENT is a "cradle to grave" program which is managed and funded through the Strategic Submarine Program Office, NAVSEA (PMS 396), in conjunction with the Director, Strategic Systems Programs (DIRSSP). The TRIDENT System Change Management Plan which runs through the life cycle of the submarine includes not only the submarine itself, but also the shore based training, refit, and test and evaluation facilities. The only items excluded from this plan are the strategic weapons system and nuclear propulsion.

TRIDENT utilizes two specialized and dedicated TRIDENT Refit Facilities (TRFs), one at Naval Submarine Base, Silverdale Washington, and

the other at Naval Submarine Base, Kings Bay, Georgia. With the exception of extensive alteration work requiring an extended availability or overhaul in a shipyard, TRFs conduct the majority of TRIDENT modifications. These highly capable facilities coupled with TRIDENT fixed operating cycles greatly simplify the planning and accomplishment of alterations.

2. TRIDENT Modification Processes

Although TRIDENT modification processes are similar to those used in the FMP, there are some distinct differences. The two key areas of difference involve the SHIPALT development process and the funding process.

The equivalent TRIDENT alteration to a Title K SHIPALT is the Trident Ship Alteration (TRID). TRIDs are used for complex alterations which involve significant ILS impact. For purposes of comparison with the FMP, TRID processes will be discussed.

a. SHIPALT Development

TRIDENT alterations are developed under the "single alteration package" concept which addresses all aspects of the alteration. The Program Office plays a pivotal role throughout the entire TRID development process. A JCF is submitted by whomever is proposing a change to the Program Office. The Program Office forwards the JCF to the TYCOMs, Commander, Naval Submarine Forces, U.S. Atlantic/Pacific Fleet (SUBLANT/SUBPAC) for comments on the change proposal. The TYCOMs comment on whether the modification should be conducted if given the opportunity, give an opinion

of the TRID, and assign a relative priority to it. In the TRIDENT modification program, fleet feedback is done early in the process, prior to the approval of the JCF.

The proposal then is forwarded to the TRIDENT Configuration Control Board. The TRIDENT Configuration Control Board ranks alterations based on military requirements, technical feasibility, cost, and logistic impact. Once approved, the Program Office assigns a Ship Alteration Manager (SAM) who is responsible for getting the entire modification package together and tracking the alteration. Additionally, a Planning Yard Alteration Team Leader is assigned for each alteration package. Under this "single alteration package" concept, all aspects of design, development, material (where applicable), and installation planning for the alteration are accomplished.

b. Funding

Although N6 funds Communications, Command, and Control (C³) procurements and installation, all other funding flows through and is controlled by the Program Office. The Program Office is responsible for programming, budgeting, and executing alterations. In contrast to funding for the FMP, TRIDENT budget lines are combined to the extent possible and contain all requirements for fully accomplishing the activities identified. Funding is not controlled at the individual alteration level. Instead, broad funding categories such as "Hull, Mechanical, and Electrical (HM&E) Modernization" are used which cover all aspects of alterations including material, design, and installation. Figure 2 is an example of a NAVSEA (PMS 396) budget showing the broad modernization funding categories.

TRIDENT FUNDING

TOTAL NAVSEA (PMS 396) O&MN AND OPN BUDGET

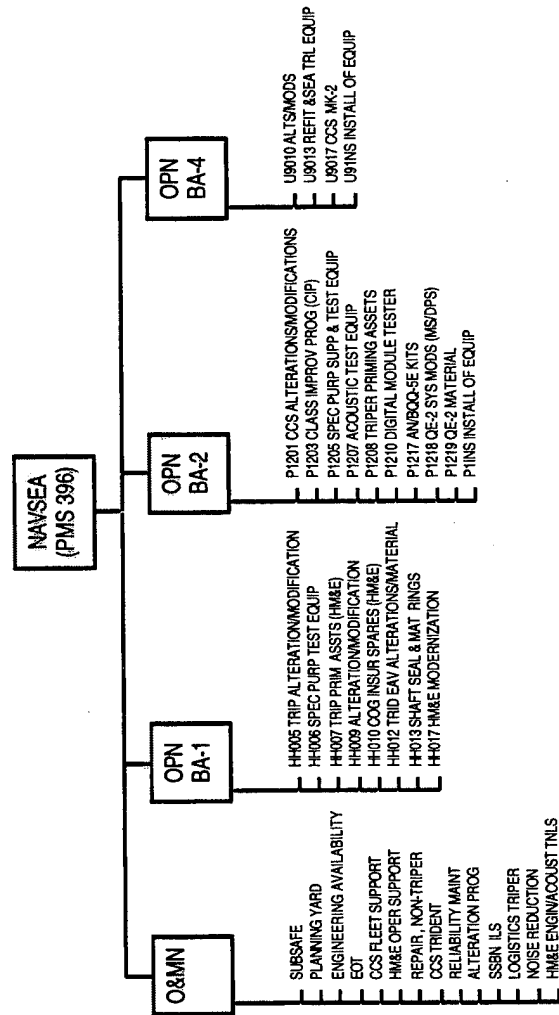


Figure 2. NAVSEA (PMS 396) Budget Example.

3. TRIDENT Alteration Exemption from the FMP

In response to a draft of OPNAVINST 4720.2G concerning the possible inclusion of TRIDENT ship alterations into the FMP, NAVSEA (PMS 396) responded by meticulously pointing out why the TRIDENT Strategic Submarine Program should not be included in the FMP. The entire argument hinged on the fact that "the TRIDENT Program was conceived, designed and has been successfully implemented as a system comprised of OHIO Class submarines with rigid configuration control, dedicated support facilities and an integrated life cycle logistics plan." (NAVSEA (PMS 396) memo dated 11 January 1995) The memo emphasized that including the TRIDENT alteration program in the FMP "...has the potential for compromising the strategic integrity of the program" and "...will serve to de-integrate a currently working system." (NAVSEA (PMS 396) memo dated 11 January 1995) The memo concluded by stating:

The TRIDENT Program, with its increased operational availability of OHIO Class ships, achieved by extremely effective control of not only ship design, but also the training facilities, refit facilities, TRIDENT rotatable pool equipments, maintenance procedures and equipment overhaul requirements, and the concurrent initiation of a singular design for new construction and operational submarines, is a unique program that requires unified resources and program control external to the FMP. (NAVSEA (PMS 396) memo dated 11 January 1995)

4. Summary

The TRIDENT modernization program is a highly integrated part of the TRIDENT "cradle to grave" concept. This program, which consists of specialized and dedicated Trident Refit Facilities and meticulous

configuration control, is solely dedicated to modernizing OHIO Class submarines (platforms). Due to the fewer number of players, this program is much less complex and fragmented than the FMP.

B. STRENGTHS AND WEAKNESSES OF THE FMP

Several recent working group studies have focused on the FMP. While many of these efforts have concentrated on specific components of the FMP such as ADP systems and not on program execution, they have been unanimous in pointing out that the weaknesses of the FMP far outnumber the strengths. The following statements provided by Ennis (et. al., 1995, p. 4-11/12) present some current DoN perceptions of the FMP:

- The current infrastructure for FMP is fragmented.
- The FMP funding process is very complex and there is a lack of documented NAVCOMPT procedures.
- It seems that the budget process has overtaken the modernization process and has become more important than the ships and the Sailors.
- The Ship's PM (SPM) has the responsibility for the life cycle support of the ship. However, the SPMs really have no control over all aspects of the SHIPALT process.
- There is no FMP process, despite the existence of the FMP Manual.

Other comments from the FMP Visionary Working Group (FMP Visionary Working Group Results, Ser 914P/3, 1 February 1995) concerning problems with the FMP funding process include:

- FMP is not organized around the "process."
- Different communities do it differently (lack of standards).
- Current FMP policy and procedures are not conducive to a team approach.
- No synergy between procurement and install (symptom of fragmentation?).

In contrast to the TRIDENT modification program, the FMP is composed of multiple program managers, design activities, installation activities, OPNAV sponsors, and budget lines. An outside observer might logically ask, "who is in charge?". This "fragmented" composition is partly due to the variety of platforms associated with the FMP. Where the TRIDENT modification solely involves OHIO Class submarines, the FMP involves several classes of attack submarines and numerous classes of surface ships. Each of the latter FMP platforms can be modified in a variety of locations by a variety of sponsors.

In order to objectively describe the strengths and weaknesses of the FMP, one needs to put the FMP in the proper perspective. First, ship modernization is a critical element of the strategic vision outlined in *...From the Sea* and more recently in *Forward...From the Sea*, and the results of the Bottom Up Review conducted by the DoD. Keeping this fact in mind and recognizing that the purpose of the FMP is to "provide a framework for the identification of modifications required to increase the capability or reliability of a ship (surface ship or attack submarine) to perform its assigned mission and accomplishment of these modifications," the two principal questions to

ask are has the FMP provided this framework and are ships in fact getting modified in accordance with OPNAV Platform Sponsor and TYCOM direction and desires? Addressing these two questions when evaluating the strengths and weaknesses of the FMP will help to separate the myths from the facts.

1. Strengths

Despite the lists of FMP weaknesses circulating throughout the DoN, two specific strengths of the FMP are worthy of mention. First, the current FMP budget structure which matches equipment to installation has greatly reduced the amount of equipment waiting to be installed and has greatly improved the accountability of total system end-item costs in the budget. The use of multiple P-1 lines, which has made the FMP less prone to marks and has reduced the likelihood that lower priority programs will be sacrificed to fund higher priority programs, has therefore contributed to getting the modernization equipment installed. Second, ships are getting modified in accordance with OPNAV Platform Sponsor and TYCOM direction and desires.

Most of the execution problems with the FMP are not with what is not getting done, they are with "how" it is getting done. To date, the majority of the conclusions and recommendations provided by the working groups have largely focused on the negative aspects of the FMP and have not built on, improved, and broadened its strengths.

2. Weaknesses

Keeping in mind the two underlying questions, there are however notable weaknesses with the FMP. Although largely "administrative" in

nature, they do add up. These "framework" weaknesses, which can be classified as either structural or funding, contribute to the overall inefficiency of the FMP and will if not adequately addressed, significantly degrade the FMP modification process in the future.

a. Structural Weaknesses

In striving to match equipment with installation, the focus of the FMP has shifted from "platform" to equipment. This focus on "equipment" by the multiple players involved with the FMP has promoted competing interests. Although instructions such as OPNAVINST 4720.2G meticulously define the relationships between the different sponsors on paper, in reality, without the emphasis on the "platform" this coordination is intermittent at best. Memorandums of Agreement (MOAs) between different sponsors are very slow to be worked out or never get established at all. Lack of coordination between the myriad of sponsors results in modification configuration control problems, some SHIPALTs being installed without SIDs or not in accordance with SIDs, and insufficient funding for installation and DSA. Additionally, with both NAVSEA and N6 sharing a position of responsibility within the FMP, the question of "who is in charge?" can be legitimately asked. For example, it is hard to effectively run a ship with two acting commanding officers. Referring back to the two principal questions, modifications are being completed but the efficiency of the FMP "framework" is questionable. This lack of efficiency will inevitably lead to increased FMP costs in the long run.

b. Funding Weaknesses

There are several key weakness associated with the current FMP budget structure shown in Figure 3. These weaknesses stem from the use of different appropriations and the large number of P-1 lines being budgeted and executed separately. The first key weakness which involves the use of different appropriations, OPN and O&MN, significantly increases the financial management complexity of the FMP process. Although equipment for Title K SHIPALTS requiring HCPM is programmed by individual line item in OPN, DSA for this equipment is lumped into O&MN. Since O&MN funding is used for many other purposes, the potential for O&MN funds to be diverted to "higher priority" programs is extremely high. For Title K SHIPALTS which do not require HCPM, both DSA and installation funding are in O&MN making the situation worse. The potential for funds being diverted to "higher priority" programs coupled with potential that Congress will mark large "pots" of money has significantly increased the likelihood of insufficient funds to complete alterations. These latter weaknesses associated with the use of different appropriations tend to offset to a certain degree any benefits received from using individual P-1 lines.

In addition to increasing the financial management complexity of the FMP process, the use of separate appropriations severely restricts the flexibility of the FMP to respond to "CHURN" which can be caused by variables such as operational schedule changes, budget induced changes (schedule, additions, deletions), technological changes, threat changes, cost induced changes, priorities, statutory requirements, and decommissioning/inactivation schedule changes. If for example NAVSEA cannot fund a specific Title K SHIPALT and the TYCOM offers to give up one or more O&MN SHIPALTS to fund it, appropriation restrictions prevent the

FMP FUNDING

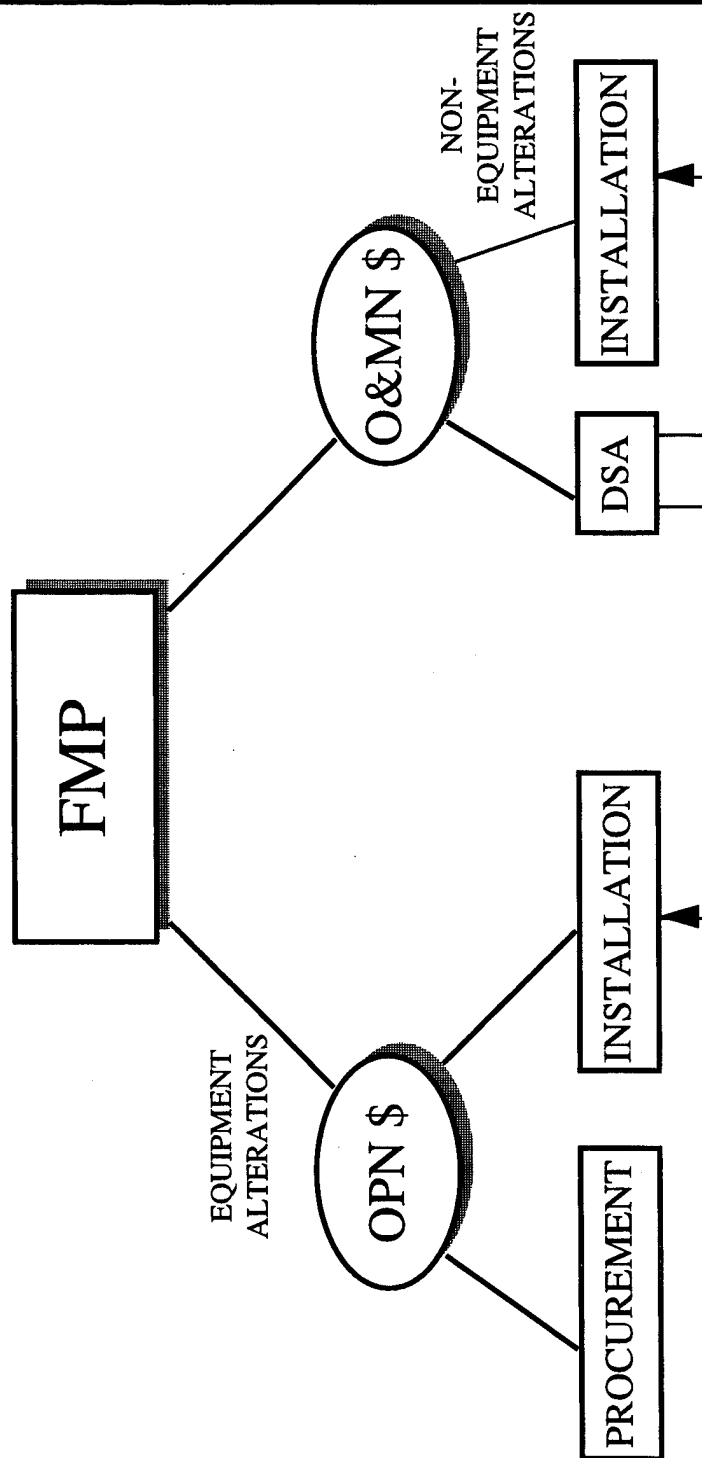


Figure 3. Current FMP Budget Structure.

transfer of funds. The latter FMP funding weaknesses associated with the use of different appropriations coupled with the structural weaknesses of the FMP again raise the potential of procured HCPM being installed significantly after the FY it was budgeted to be installed or not being installed at all.

The second key funding weakness associated with the FMP stems from the use of multiple P-1 lines in the budget. For example, in FY 1995, approximately 65 P-1 lines were used. The sheer number of individual P-1 lines being budgeted and executed separately requires a much larger administrative infrastructure to accurately record the multitude of required modification transactions. Even though computers ease this administrative burden, they do not necessarily eliminate it. Although it is hard to put a dollar figure on these transactions, there are hidden costs associated with preparing documentation and maintaining databases. Additionally the use of multiple lines and associated documentation increases the likelihood of unmatched disbursements, a systemic problem in the DoN.

In addition to the large administrative burden which results from the use of multiple P-1 lines, individual P-1 line reprogramming thresholds constrain management in the execution of the FMP. During FY 1995, NAVSEA processed 84 Below Threshold Reprogramming (BTR) requests involving approximately 25 percent of the total FMP budget. Of these 84 requests, five required NAVCOMPT approval. Only two of these five were approved. BTRs require a significant amount of preparation. This preparation adds to the overall cost of the FMP and the resultant funding manipulations in turn serve to decrease its efficiency.

C. STRENGTHS AND WEAKNESSES OF THE TRIDENT MODERNIZATION PROGRAM

In contrast to the FMP, few studies have been conducted on the TRIDENT modernization program. TRIDENT, however, is widely recognized throughout the DoD as a very successful and effective program. Why is this program so highly regarded? To answer this question, one again needs to put the program in the proper perspective. First, due to its strategic significance to the national defense posture, the TRIDENT program, until recently, has not been as financially constrained as the FMP. Notwithstanding, the real key to the success of the TRIDENT program lies in its structure. The TRIDENT program was designed from its inception to be a "cradle to grave" program:

The TRIDENT FBM system consists of SSBN 726 Class submarines, their TRIDENT I (C4) or TRIDENT II (D5) weapon systems and a logistic support structure which has been planned, designed, and will be maintained commensurate with the operational availability requirements of the approved characteristics for the 726 Class SSBNs. The 726 Class SSBN is designed to operate on a 95-day cycle. This cycle consists of 70 days at sea on patrol and 25 days off patrol, which includes a continuous 18-day period between patrols for refit, incremental overhauls, appropriate modernizations, and resupply. A totally integrated logistic support (ILS) system has been developed to achieve and maintain this operational cycle throughout the life of the 726 Class SSBN.... 726 Class SSBNs will be supported from dedicated TRIDENT submarine bases located in the United States (OPNAVINST 4000.57E)

In many respects, the TRIDENT System is very similar to another defense success story, the Strategic Air Command (SAC). SAC, like TRIDENT was a single purpose system with few restraints. SAC's purpose and mission, was clearly defined: "it was to bomb the Soviet Union back to the Stone Age."

(Jones et. al., 1994, p. 38) One of SAC's exceptional leaders, General Curtis LeMay, developed SAC into "...a military organization in which all else was ruthlessly subordinated to combat readiness and effectiveness justified in terms of the mission in which the organization served." (Huntington, 1961, p. 312) Jones further emphasizes that LeMay:

...was given command of all the resources required to carry out SAC's mission. He had the authority to decide who and what SAC needed and who and what it did not. This effectively subordinated both the training and the procurement functions to SAC. (Jones et. al., 1994, pp. 39-40)

In the TRIDENT System, with the majority of the funding flowing through and controlled by the Program Office, there is no question of "who is in charge." Alterations are meticulously tracked from inception to completion by SAMs who continuously coordinate with OPNAV sponsors. The use of dedicated TRIDENT facilities and fixed operating cycles significantly adds to the efficiency of the entire modification process.

The TRIDENT program is clearly one of our nation's military success stories. Notwithstanding, there are aspects of the TRIDENT modernization program which are open for critique. These aspects are largely associated with its budget structure. As funding for strategic programs begins to decline, the broad categories of the TRIDENT budget structure will be more prone to congressional marks. Additionally, the use of broad modernization funding categories prevents the OSD and Congress from matching equipment to installation. To date the OSD and Congress have essentially left the TRIDENT program alone and have not been inclined to raise the "full funding" flag. As we get farther and farther from the Cold War, this temptation might change.

Although the TRIDENT modification program has experienced the usual managerial and administrative ups and downs of any large

organization, its strengths far outnumber its weaknesses. In terms of a successful modification program, the TRIDENT program serves as a model for others:

- Modifications are considered on a "platform" basis vice an "equipment" basis.
- TRIDENT is a "cradle to grave" program which is managed and funded largely through a single Program Office.
- TRIDENT utilizes specialized and dedicated TRIDENT Refit Facilities.
- Alterations are developed under the "single alteration package" concept.
- Ship Alteration Managers and Planning Yard Alteration Team Leaders are assigned to meticulously track alterations.
- Budget lines contain all requirements for fully accomplishing alterations.

D. SUMMARY

This chapter has examined the TRIDENT modernization program and evaluated the strengths and weaknesses of both the FMP and the TRIDENT modernization program. Although the TRIDENT modernization program is dedicated to the modernization of OHIO Class submarines, many of its key attributes should be carefully considered when determining the benefits of restructuring the FMP budget structure and making recommendations on how to restructure the FMP budget to improve program execution.

In the next chapter, current DoN initiatives to restructure the FMP budget structure will be presented and evaluated.

VI. CURRENT PROPOSALS TO REDUCE FMP CYCLE TIME

Utilizing the framework developed in the first five chapters of this study, Chapter VI objectively presents and evaluates the current DoN proposals to restructure the FMP budget structure from an "outside" perspective. Each proposal is presented largely in its original context and summarized with a brief evaluation.

A. BACKGROUND

As a result of its importance to the Navy's modernization efforts and in line with one of five Navy Acquisition Reform Senior Oversight Council (NARSOC) cycle time reduction initiatives, the FMP was nominated by the Navy for cycle time reduction. Under NAVSEA Performance Initiative #3 whose purpose is "timely modernization, installed quickly, thoroughly tested, with complete logistics support," the NAVSEA Executive Steering Committee (ESC) chartered an FMP Cycle Time Reduction Working Group. The charter involved focusing on improvement opportunities for timely ship modernization with a goal of 50% reduction in FMP cycle time by the year 2000. The material for Chapter VI was exclusively taken from a working copy of the Cycle Time Reduction Working Group FMP Financial Structure Draft Proposals and therefore will not be individually cited.

The FMP Cycle Time Reduction Working Group is comprised of four Sub-Groups which include: Ownership/Requirements, SHIPALT Development and Material Support, SHIPALT Scheduling and Execution, and FMP Financial Structure. For purposes of this study, only the FMP Financial Structure Proposals will be addressed.

Although the FMP Financial Structure Proposals are still in the draft stage, four specific proposals are emerging. Ultimately, the Working Group could forward these individual proposals or a combination of the proposals. With the exception of Proposal #4 which mainly deals with peripheral aspects of the FMP, the first three proposals and discussion hit upon the key issues and closely parallel the FMP strengths and weaknesses presented in Chapter V. In order to preserve the context of the proposals and the Cycle Time Reduction Sub-Group's thought process throughout the preparation of these proposals, the Financial Structure Proposals have been left largely in the format used for a Working Group briefing held 15 February 1996. Additional commentary has been added for clarification as well as a brief evaluation of each proposal to help highlight key points and concerns. This treatment, coupled with the background and analysis of the first five chapters, will serve as the basis for conclusions and recommendations for further research in Chapter VII.

B. THE ISSUES

The three specific FMP issues addressed in the Working Group briefing included the FMP's inadequate flexibility to accommodate a very dynamic program, the FMP's financial management complexity, and the FMP's poor budget visibility. With respect to the FMP's inadequate flexibility, the discussion centered around "CHURN." Although managers within the FMP have for the most part been able to "work around" CHURN, this extraordinary effort serves to shift the focus away from "modernization" and toward "manipulation." The extra time involved with ensuring alterations occur adds to the overall inefficiency of the FMP.

The second issue highlighted the FMP's financial management complexity. The use of different appropriations (O&MN and OPN) with

different structures and rules complicates the FMP process. For example, equipment alterations are funded in OPN (equipment and installation) and non-equipment alterations are funded in O&MN. Additionally, DSA, a critical element of the FMP, is funded in O&MN. A large percentage of the current problems with the FMP involve inadequate DSA funds to support programmed installations. Millions of dollars of SHIPALT work continues to be jeopardized due to lack of the small percentage of DSA needed up front to produce alteration packages. Since DSA is funded in O&MN it is vulnerable to marks and diversion. Additionally, inaccurate DSA estimates can exacerbate the problem.

In addition to the use of different appropriations, the number of individual P-1 lines adds to the financial management complexity of the FMP. Each of the six sponsors' accounts (N6, Director Supportability, Maintenance, and Modernization Division (N43), N85, N86, N87, N88) are separately budgeted and executed.

The third issue addressed the FMP's poor budget visibility. Even with exhibits such as the P-3A exhibit which links procurement to installation and displays the total costs of alterations, with different appropriations and different appropriation analysts within N82 it is difficult for sponsors and N82 to review and analyze the FMP as a single entity. Since FMP funding is spread between different appropriations and funding for alterations is not completely contained within a single appropriation, the full effects of funding reductions are often realized long after the cuts are made.

C. SOLUTION CRITERIA

Given the latter issues, the FMP Financial Structure Sub-Group defined specific solution criteria:

- Increase the claimant's execution flexibility.
- Maintain the procurement/installation link.
- Protect Navy Total Obligational Authority (TOA).
- Support communication of sponsor desires.
- Make it simple for people buying the equipment.
- Fairly adjust depot service costs.
- Better relate costs to increased capability.
- Reduce administrative burden.

D. ASSUMPTIONS

The Sub-Group made four assumptions with respect to the future of the FMP. The assumptions included: program "CHURN" will not decrease; cost estimating is as accurate as it can be; reprogramming thresholds will not change; and FMP guidance and rules may be changed. Although the Sub-Group declined to focus on cost estimating, in actuality, inadequate cost estimating could be contributing to current FMP execution problems and should be studied in-depth.

E. FMP FINANCIAL STRUCTURE PROPOSALS

1. FMP FINANCIAL STRUCTURE PROPOSAL #1

The FMP Financial Structure Sub-Group's Proposal #1 recommends placing all the FMP under a single appropriation, specifically OPN. Under this proposal, funding for non-equipment alterations and DSA would be moved from O&MN to OPN. DSA would be made part of the "Advance Planning and Installation" line. Figure 4 is the proposed FMP funding structure.

If OPN is not approved for the entire FMP, the Sub-Group, under Proposal #1 would recommend moving DSA to OPN and leaving the non-equipment alterations funded in O&MN. Another option would be to fund DSA for equipment alterations in OPN and DSA for non-equipment alterations in O&MN.

a. Pros and Cons of FMP Financial Structure Proposal #1

On the positive side, Proposal #1 would significantly increase FMP execution flexibility enabling FMP managers to respond to "CHURN." Currently, moving OPN to/from O&MN requires congressional approval during execution. Although with a single appropriation, the \$10 million reprogramming threshold would still exist, this restriction has not been a problem in the past. Additionally, Proposal #1 would again "fully fund" modifications under a single procurement appropriation linking DSA to installation and reducing modification funding from the vulnerability that O&MN is susceptible to.

PROPOSED FMP FUNDING

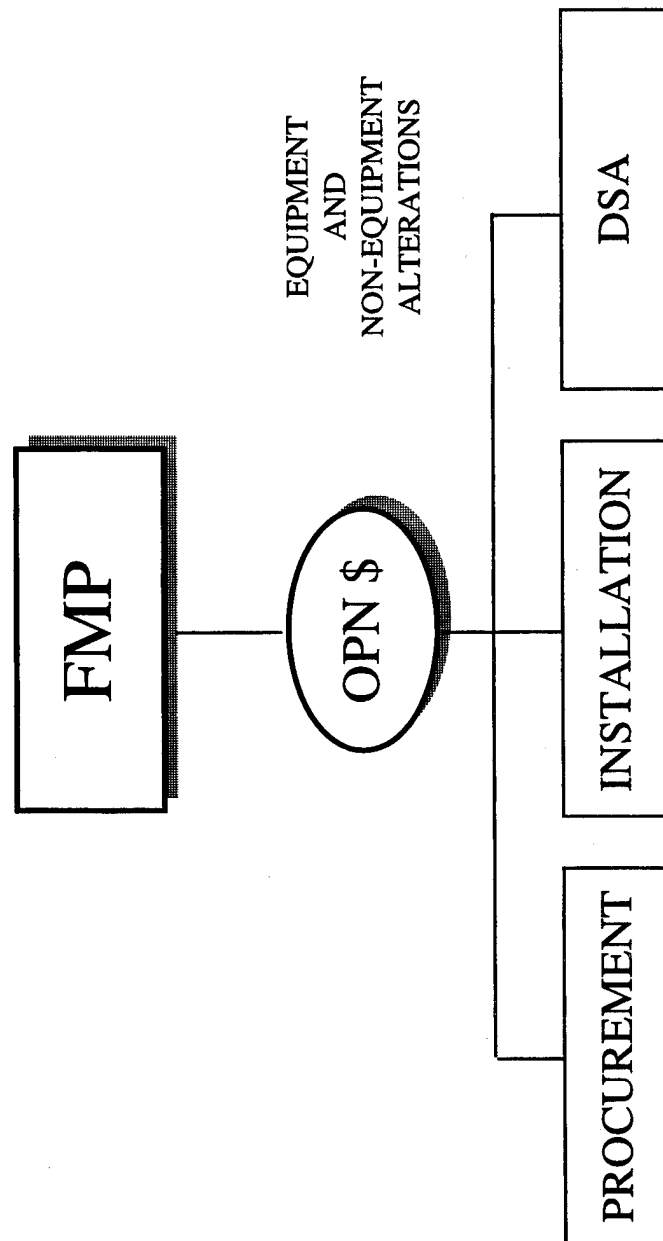


Figure 4. Proposed FMP Funding Structure.

On the negative side, non-equipment alterations are not currently tied to an end item procurement in the budget. Additionally, under Proposal #1, there could be a potential increase in the number of P-1 lines or expansion of the cost codes within each P-1 line.

b. Evaluation

On the surface, Proposal #1 appears to be an easy fix to the FMP dilemma. Placing all the FMP under a single appropriation would greatly improve execution flexibility and would significantly reduce the vulnerability that O&MN is susceptible to. However, upon further investigation, there are some significant concerns associated with this proposal. First, in order to make the recommendation to move DSA back into OPN, one needs to understand OSD's motive for placing "Modernization Support" (DSA) in O&MN in the first place. Although this shift was reportedly "...a result of an OSD determination that these requirements should not be in the procurement appropriations since they did not relate to an end-item installation," there were probably additional reasons (maybe political or financial) behind OSD's decision. (FMP Manual, p. EXSUM-4) Prior to this decision being made, the Navy openly disagreed with OSD's justification for the move.

Second, assuming no other changes are made to the FMP financial structure, Proposal #1 would significantly increase the required number of FMP funding documents. In FY 95, 200 basic funding documents were produced just for the DSA allocation of the FMP. Of these 200 documents, 271 amendments were required. If DSA is funded in OPN (by individual P-1 line), assuming no relaxation of the current FMP rules/procedures, 3400 basic funding documents would be required. Taking amendments into consideration, possibly 6000-7000 total documents would be

required to execute the FMP under this proposal. For example, Norfolk Naval Shipyard is the planning yard for LHA-1. Currently DSA is O&MN funded and a single funding document is required. If DSA is OPN funded there might be 15 different documents required due to the number of individual P-1 lines in OPN associated with LHA-1. If the current FMP funding rules are relaxed, a possible solution to this problem would be to submit one funding document citing 15 separate lines. If current FMP funding rules are not relaxed, more funding documents would not result in better FMP execution efficiency.

Third, putting all FMP funding back into OPN could significantly jeopardize FMP execution performance. Due to the long lead times associated with modernization equipment, the three year obligational authority of OPN funds was frequently exceeded in the early 1990s under the "full funding" concept. The assumption to make here is that "annualization" of installation costs would continue. Remember, Congress reluctantly accepted DoD's argument for "annualization" to begin with. Any further FMP execution problems would add fuel to Congress' conclusion that the FMP is plagued with "managerial" problems. Congressional "distrust" could in turn result in more congressional micromanagement of the FMP thereby hindering efforts to improve FMP execution effectiveness and efficiency.

2. FMP FINANCIAL STRUCTURE PROPOSAL #2

The FMP Financial Structure Sub-Group's Proposal #2 recommends reducing the number of P-1 lines. Under this proposal, FMP OPN installation lines would be reduced and similar P-1 lines would be combined. For example, the SQQ-89, surface sonar support equipment, and surface sonar windows would be combined under a single line labeled "Surface ASW Sensors." Proposal #2 does not incorporate Proposal #1; O&MN parts of the

FMP would remain unchanged. The Sub-Group has not ruled out the possibility of consolidating both proposals.

**a. Pros and Cons of FMP Financial Structure
Proposal #2**

On the positive side, Proposal #2 would significantly increase FMP execution flexibility enabling FMP managers to respond to fleet and sponsor needs. Specific funding shortfalls could be funded within individual P-1 lines to respond to fleet and TYCOM desires. TYCOMs currently have the flexibility of funding Title D and F SHIPALTs from a "single pot." Additionally, Proposal #2 would significantly reduce the administrative burden of executing the program.

On the negative side, this proposal may reduce the sponsor's ability to communicate priorities to the claimants (NAVSEA, SPAWAR, NAVAIR) via the budget. Other Proposal #2 drawbacks discussed during the Working Group briefing included reduced flexibility to BTR funds between P-1 lines, POM/PR process complicated with respect to programming equipment funds, less easily identifiable full funding discipline and justification to the OSD and Congress, and larger P-1 lines are more susceptible to non-program specific reductions.

b. Evaluation

Again, Proposal #2 on the surface appears to be a viable solution to the FMP's inherent inflexibility. With respect to Title D and F SHIPALTs, the "single pot" concept has greatly improved program flexibility and has been widely heralded throughout the Navy as a significant step toward

streamlining the modification process. Title D and F SHIPALTS are however not as "equipment" intensive as Title K SHIPALTS and therefore do not involve as many "competing" interests. Grouping similar equipment under a single P-1 line significantly reduces individual sponsors' control over the modification process. Unless the FMP structure is changed in conjunction with this proposal, it is unlikely that sponsors will agree to less control.

Understanding that the current reprogramming restrictions allow moving up to \$10 million between individual P-1 lines, fewer P-1 lines would result in less reprogramming flexibility. Realistically, this restraint should not inhibit execution of the FMP since larger P-1 lines would give managers the flexibility to move funds within lines.

Although the POM/PR process under this proposal would be potentially more complicated with respect to programming equipment funds, execution flexibility should outweigh this concern. Additionally, with proper budget exhibits, the "full funding" discipline can be maintained.

One key concern, in addition to that of sponsor control, is that larger P-1 lines may be more susceptible to marks. Since this proposal involves installation funds, insufficient installation funds would result in modernization equipment not getting installed; the situation the FMP was in when "full funding" was first implemented in FY 1990. In FY 1995, a \$13 million across the board mark indicates that even the current FMP budget structure is prone to marks and raises the question whether larger P-1 lines are really more susceptible. These two concerns must be carefully evaluated prior to recommending this proposal.

3. FMP FINANCIAL STRUCTURE PROPOSAL #3

The FMP Financial Structure Sub-Group's Proposal #3 recommends restructuring P-1 installation lines by "platform." This proposal would shift

the focus of the FMP from equipment and systems to ship/platform management significantly reducing the number of cross-sponsor lines. Current P-1 lines are by equipment such as "Pollution Control," "Firefighting," and "LM-2500." Imbedded in this recommendation is a caveat that cross-sponsor portions of the current FMP that are currently working should not be broken. For example, it is easier for one sponsor to buy equipment to be installed by multiple sponsors (ex. SPS-48 radars bought by N86).

a. Pros and Cons of FMP Financial Structure

Proposal #3

On the positive side, Proposal #3 would increase execution flexibility. It would shift the focus from hardware procurement to modernization in the current environment of greatly reduced procurement spending and would support effective analysis of the FMP as a single entity. Additionally, Proposal #3 supports compliance with the regional maintenance concept. On the negative side, Proposal #3:

- Complicates equipment life cycle support.
- Complicates congressional oversight and may alter "perceptions."
- Results in loss of easily identifiable full funding discipline and justification to the OSD and Congress.
- Increases number of P-1 lines.
- Results in an increased effort to defend budget exhibits.
- Reduces ability of sponsors to communicate priorities to claimants via the budget.

- Removes the sponsor from the decision chain regarding reprogramming of funds if multiple ship classes are represented in a single P-1 line.
- Complicates POM/PR process i.e., programming funds for equipment.

b. Evaluation

Proposal #3 is in consonance with the "TRIDENT" concept; the "platform" should take precedence over the "equipment." Unlike Proposals #1 and #2, this proposal would radically change the FMP. Radical change however, might be just what the FMP needs. Many of the changes in the FMP budget structure over the last five years have been incremental in nature. Following implementation of "full funding" in FY 1990, follow-on changes have merely been variations on the same theme.

Incorporated in this proposal would be a structural change to the FMP. When considering FMP structure, two areas of concern must be addressed. The first area involves sponsor control. Sponsors largely exert their control through individual P-1 lines. Although Proposal #3 maintains the current number of equipment P-1 lines, it combines installation for this equipment under platform headings. The key question with respect to sponsor control is will the sponsors agree to less control? If "modernization" is really the priority and given that "trust" is an inherent part of this proposal, this aspect of a structural change should be able to be worked out. The second area involves the overall management of the FMP. The key question with respect to FMP management is should a single organization be given sole responsibility for managing the FMP? Clearly, a single organization would be more effective. With a "platform" emphasis and a single organization in charge of the FMP, the question of "who is in charge?" could once and for all

be answered. The problem with shifting to a single organization in charge of the FMP is that this shift would not be easy. Power struggles and current FMP administrative infrastructure could make the shift extremely messy, potentially alleviating any of the gains. Regardless of the latter concerns, Proposal #3 offers a refreshing alternative to the "status quo."

4. FMP FINANCIAL STRUCTURE PROPOSAL #4

The FMP Financial Structure Sub-Group's Proposal #4 recommends making the fleets the budgeting office for ship depot availability shipyard service costs. This proposal would transfer FMP naval shipyard service funds to fleet maintenance accounts.

a. Pros and Cons of FMP Financial Structure Proposal #4

On the positive side, Proposal #4 would alleviate many of the problems which arise during execution of ship depot availabilities at public shipyards. Additionally, manday rates would be more stable. On the negative side, Proposal #4:

- Could result in funding shortfalls in the ship alteration and/or fleet budgets. Identifying the actual amount of funding for such a budget based transfer would be extremely difficult.
- Does not adequately address the NAVSEA-08 requirement to control all nuclear SHIPALT funding.
- Further fragments FMP funding and obscures total alteration cost.

b. Evaluation

Although this proposal deals with "peripheral" aspects of the FMP, making the fleets the budgeting office for ship depot availability shipyard service costs would only serve to further "fragment" the FMP budget structure and obscure total alteration cost. Further analysis of this change is needed prior to incorporating it into an overall recommendation for improving FMP efficiency.

F. SUMMARY

This chapter has examined the current DoN proposals to restructure the FMP budget structure to improve FMP effectiveness and efficiency. Although these proposals are still in the draft stage, they provide potential solutions to key FMP problems. With the exception of Proposal #3, each proposal takes an "incremental" approach to improving FMP execution effectiveness and efficiency. This incremental approach closely parallels the FMP budget structure changes since the shift to "full funding" in FY 1990. Proposal #3, a radical departure from the "incremental" approach, offers to shift the emphasis of the FMP from "equipment" to "platform" which is in consonance with the TRIDENT concept. Although no one proposal alone provides a single solution to improving FMP effectiveness and efficiency, a combination of key points of each of the proposals could significantly improve FMP execution and reverse current perceptions throughout the fleet such as "it seems that the budget process has overtaken the modernization process and has become more important than the ships and the Sailors." (Ennis et. al., 1995, p. 4-11)

The next chapter reflects on the FMP dilemma, provides conclusions, and offers recommendations for further research.

VII. CONCLUSIONS AND RECOMMENDATIONS

A. REFLECTIONS

There is no doubt, following completion of this study, that the current FMP is a complex and highly "fragmented" program. Before making more changes to a program which has seen constant change over the last five years, one needs to fully understand the changes which have been made, the reasons behind these changes, and their historical context.

Incorporated into the many FMP budget structure changes since FY 1989 has been the notion of management control. To appreciate the shift to "full funding" in FY 1990 and the "incremental" FMP budget structure changes which have followed, one needs to have a good understanding of the different types of appropriations and their associated controls. Since colonial times, Congress has generally favored more control through the use of line-item appropriations. The executive on the other hand has favored lump-sum appropriations which provide more flexibility. Although it is hard to conclusively determine why congressional control of the military purse has waxed and waned throughout the nation's history, "distrust of the executive" has generally resulted in more control and the use of line-item appropriations. It was Congress' distrust of the DoD's and the DoN's ability to effectively manage the installation of modification equipment which resulted in Congress' decision to direct the DoD and the DoN to "fully fund" the FMP beginning in FY 1990.

The degree to which Congress will continue to apply control to the FMP is directly related to Congress' "perception" of the FMP managerial situation. Currently, without a single OPNAV advocate of the FMP and with

the operational fleet against the FMP's inefficient and misunderstood processes, it is unlikely that Congress will choose to apply less control in the future unless radical changes are made. The problem with more FMP control at this point, is that more control will inevitably lead to more inefficiency given the current FMP structure.

Despite the perceived notion that the FMP is mismanaged, managers within the FMP have been able to work around the FMP's inherent inflexibility to ensure modifications get accomplished in accordance with sponsor and TYCOM desires. A good example of a "work around" involves SHIPALT SSN-3818 which installs the six inch countermeasure on SSN 688 Class submarines. This SHIPALT is funded in OPN line C2WM (Sub Acoustic Warfare). Equipment procurements were made to support the installation of this SHIPALT on three submarines in FY 1995. During the budget process, installation reductions occurred in the SHIPALT's associated OPN line making it unexecutable. The Planning Yard was able to break SHIPALT SSN-3818 into two separate SHIPALTS, SHIPALT SSN-4024 for structural changes and SHIPALT SSN-4025 for electrical installations. SHIPALT SSN-4024, the most expensive of the two, was funded in O&MN and SHIPALT SSN-4025 was funded with available SHIPALT SSN-3818 dollars in OPN. Although this example demonstrates that managers can work around the FMP's inflexibility, these manipulations are not free. Additional DSA dollars were used to fund the development of SHIPALT SSN-4024 and SSN-4025. Ultimately, with further budget reductions on the horizon, these managerial manipulations will not be able to make up for the FMP's inherent inflexibility; modifications will not get accomplished and higher program costs will be incurred. More program controls would only exacerbate this problem.

Setting the issue of control aside for a moment, the future of the FMP is also tied to the "modernization" versus "readiness" debate, a hotly

contested partisan issue in both the executive and legislative branches of government. In the post Cold War era of markedly reduced defense procurement spending, modernization of existing assets is a critical element of our defense posture. Although the FMP comprises only a fraction of our total defense and Navy budget, this small investment significantly contributes to our ability to meet the "threat." Unfortunately, the FMP to date has not been high on the list of DoD and DoN priorities. To improve the FMP requires commitment from senior leadership within the DoD and the DoN. Without this commitment, any recommended changes will eventually lead to more of the same.

Provided there is a dedicated commitment to reform the FMP from senior DoD and DoN leadership and provided "modernization" is a national priority, the TRIDENT modernization program offers a refreshing alternative to the status quo. By emphasizing the "platform" vice the "equipment," modernization takes on a whole new meaning. Although the TRIDENT modernization program is dedicated to the modernization of OHIO Class submarines, many of its key attributes should be carefully considered when determining the benefits of restructuring the FMP budget structure and making recommendations on how to restructure the FMP budget to improve program execution.

B. CONCLUSIONS

Current Strategic management theory discusses organizational change and provides recommendations on when this change should occur. Imbedded in this change is a "fit" between the external environment and internal capability. Mintzberg argues that when "...the organization's strategic orientation moves out of sync with its environment...a strategic revolution must take place." (Mintzberg et. al., 1992, p. 111) Although a specific

discussion of strategic management theory is beyond the scope of this study, the latter generalizations can be directly applied to the FMP.

Careful analysis of the FMP changes over the past five years indicates that although this period can be characterized by constant change, the changes have not adequately taken the FMP's external environment into consideration. The FMP's external environment has dramatically changed over the last five years. Some of the key external changes include the end of the Cold War, the defense drawdown, and markedly reduced defense procurement spending. Although recent FMP changes have addressed the need to ensure control in light of significantly reduced defense spending levels, the FMP changes have not adequately addressed its inefficiency; fewer resources increases the need for program efficiency.

In order to adequately address the FMP's inherent inflexibility, "revolutionary" not incremental change must take place. The TRIDENT program model provides a good starting point for this significant change:

- Modifications are considered on a "platform" basis vice an "equipment" basis.
- TRIDENT is a "cradle to grave" program which is managed and funded largely through a single Program Office.
- TRIDENT utilizes specialized and dedicated TRIDENT Refit Facilities.
- Alterations are developed under the "single alteration package" concept.
- Ship Alteration Managers and Planning Yard Alteration Team Leaders are assigned to meticulously track alterations.
- Budget lines contain all requirements for fully accomplishing alterations.

Even though the TRIDENT program solely involves OHIO Class submarines which utilize two specialized and dedicated TRIDENT Refit Facilities (TRFs), its key attributes can be directly applied to the FMP.

Based on the research in this thesis, in order to improve program execution, the FMP should be radically restructured. Specific attributes of this new structure should include:

- Modifications considered on a "platform" basis vice an "equipment" basis.
- Single organization in charge of the FMP.
- SPMs totally responsible for platform modernization.
- Alterations developed under the "single alteration package" concept.
- Ship Alteration Managers and Planning Yard Alteration Team Leaders assigned to meticulously track alterations.
- Sponsors' desires maintained.
- Clearly visible procurement/installation match in budget.
- Budget lines contain all requirements for fully accomplishing alterations. DSA funds grouped with "Advance Planning and Installation."
 - Investments "fully funded" in OPN.
 - Modifications not classified as investments "fully funded" in O&MN.
- Single path for flow of funds.

Incorporating the latter attributes into a significant change to the FMP will not necessarily be an easy task. With multiple program managers, design activities, installation activities, OPNAV sponsors, and platforms involved, getting all the players to agree will be challenging. Some of the key areas of

debate will center on equipment which crosses between sponsors. This significant change requires commitment not only from senior leadership within the DoD and the DoN, but from all the individuals and organizations involved with the FMP. Additionally, as noted earlier, this change is also tied to the current debate on "modernization" versus "readiness." Provided that modernization is a national priority, this radical change which is specifically designed to improve FMP efficiency and effectiveness will be a significant step toward reversing Congress' "perception" of this vital program; a perception which could in turn lead to less control and even greater execution flexibility, clearly the ultimate benefit in the eyes of the executive.

C. RECOMMENDATIONS FOR FURTHER RESEARCH

In consonance with the key attributes of a significant change to the FMP, several important areas remain to be explored. This study provides the in-depth FMP background required to begin attacking these specific areas. The first area, discussed in Chapter VI, is that of cost estimating. Although not a focus of the FMP Financial Structure Sub-Group, inadequate cost estimating is very likely contributing to current FMP execution problems. Concentrating on cost estimating associated with DSA, installation, and advance planning could reveal methods to reduce program costs.

The second area involves designating a single organization to be in charge of the FMP. Although there is no doubt that a single organization in charge of the FMP would streamline execution, the dynamics of the current structure need to be carefully evaluated before defining the specifics of this aspect of the change.

The third area involves an actual cost benefit analysis of the current FMP and a streamlined FMP. Utilizing the background provided by this

study, actual costs associated with the day to day operation of the FMP could be systematically evaluated.

The fourth area involves equipment which crosses between sponsors. A key obstacle to shifting the focus of the FMP from equipment to platform will be how to efficiently manage the procurement and installation of this equipment.

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APPENDIX. TYPES OF FMP SHIPALTS

1. Title D SHIPALT - A permanent alteration that is equivalent to a repair, does not affect the military characteristics of a ship, and may require Centrally Provided Material (CPM) but does not require Headquarters CPM (HCPM) for accomplishment. Title D alterations generally include more efficient, cost effective designs that improve ship maintainability. Title D alterations are technically approved by NAVSEA and authorized for accomplishment by the fleet CINC.
2. Title F SHIPALT - A permanent alteration that does not affect the military characteristics of a ship, does not require CPM, and is within the capabilities of ship's force for accomplishment. Title F alterations are technically approved by NAVSEA and authorized for accomplishment by the fleet CINC.
3. Title K SHIPALT - A permanent alteration to provide a military characteristic or additional capability not previously held by a ship affecting configuration controlled areas or systems of a ship or which otherwise requires the installation of HCPM. These alterations are approved for development and authorized for accomplishment by the CNO (military improvements) or the HSC (non-military improvements). The technical approval for Title K SHIPALTs is provided by NAVSEA.

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